

GREENHILL PARK RESIDENTIAL SUBDIVISION STAGE 16

INFRASTRUCTURE DEVELOPMENT COMPLETION REPORT

CARRS ROAD, GREENHILL PARK

CHEDWORTH PROPERTIES LTD

Our reference: 19-30410-01

Prepared for Chedworth Properties Limited

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1.0 BACKGROUND

1.1 Introduction

This application relates to Greenhill Park Subdivision Stage 16 located south of Carrs Road linking to Watkins St.

Works included the following:

- Stage 16 subdivision roading (including Chilman Terrace, Musselwhite Terrace, Earp Crescent & Cogar Terrace)
- Wastewater reticulation and lot connections
- Stormwater reticulation for roading and lot connections
- Watermain and lot connections
- Associated Streetlights
- Electrical reticulation for subdivision lots and street lighting
- Ultrafast Broadband reticulation
- Gas supply for subdivision development
- Concrete footpath construction
- Landscape planting

On the south side of Carrs Road Stage 16 development works for 31 residential lots plus 25 multi lots have been carried out under Hamilton City Council Subdivision Resource Consent 011.2018.6632, granted 05 September 2018 and 011.2019.7140.003 granted 12 November 2021.

This application is made on behalf of Chedworth Properties Ltd for Works Clearance from Hamilton City Council. Works clearance is sought in order to obtain certification pursuant to Section 224(c) of the Resource Management Act 1991 for Greenhill Park subdivision, Stage 16, LT 570351. A copy of the land transfer plan is included in Appendix 8.

This report addresses the key details associated with the Infrastructure provided.

1.2 Entities Involved with Development

The following companies have been involved with the construction of the Subdivision;

• Developer: Chedworth Properties Ltd

Consultant Design Engineers: Beca Consultants

Consultant Engineers and Surveyors: S&L

Geotech Engineer
 Landscape Design
 Landscape Planting
 Native Awa

Head Contractor: Online Contractors 2016 Ltd (OLC)

Subcontractors & Suppliers:



Civil Materials Supply Hynds

Stormwater and Wastewater Drainage West Construction Ltd (WC)

Geotechnical Testing Opus/WSP

Concrete Supply

Concrete kerbs

Bowers Bros Concrete

Waikato Construction

Carparks Purrfect Paving Footpaths Purrfect Paving

Concrete Cutting Ironman Concrete Cutting

Streetlights Ibex Lighting

Power Reticulation WEL Networks – (Subcontractors:

Northpower and Bayonne)

Road Materials Supplier Stevenson Resources, Gleeson Quarry

- Huntly

Road Surfacing Contractor Higgins Contractors
Road Signs Directionz Ltd

Road Line Marking Linemark
Gas First Gas

Telecommunication Ultrafast Fibre – (Subcontractor:

Civtec)

1.3 Observation of Works

S&L undertook regular inspections of the works as the project progressed and reviewed the contractor's quality assurance measures including test results. The progress of the construction was reviewed formally at weekly site meetings as well as discussions on site with the contractor.

The observation and supervision activities by S&L were undertaken to a level of CM3 (weekly site visits) as described in the IPENZ document "Guidelines on the Briefing and Engagement of Consulting Engineering Services" with additional inspections when required by the nature of the works under construction. S&L were able to maintain the level of observation during Covid level 3 lock down as S&L have a staff member who resides in Hamilton.

1.4 As-Built Data

A full set of as-built drawings and excel spreadsheets have been appended to this document in Appendix 9 and 10. These include the as built and asset value information required in accordance with the RITS. The as built data has also been included in this application in electronic format and a copy enclosed in final works clearance report for reference.

1.5 CCTV

CCTV inspections have been completed for the wastewater and stormwater lines. The footage has been provided to Hamilton City Council separately.



1.6 Design and Hamilton City Council Development Unit Design Acceptance

The following Approvals have been gained from the HCC Development Unit:

- Greenhill Park Stage 16 was designed by S&L Consultants and approved by HCC Development Unit.
- Greenhill Park Stage 16 Streetlighting was designed by Ibex Lighting and approved by HCC Development Unit.

1.7 Amendments to approved plans

Amendments from the approved plans have been made during construction as follows:

Pavement type: Collector Road changed from one 200mm thick layer of GAP65 to WHAP65.
 Report submitted and confirmed by email from HCC Development Engineer included in Appendix 2(b).

2.0 EARTHWORKS

Earthworks have been carried out onsite under the supervision of S&L and Core50 Engineers. Core50 Engineers were engaged as the geotechnical engineer. The Core50 report of stage 16 subdivision earthworks and recommendations for building development is included in Appendix 1, detailing earthworks compliance with HCC RITS and NZ Standards.

3.0 ROADING INFRASTRUCTURE

3.1 Road Construction

Roads have been constructed in general accordance with the pavement shown on the approved engineering plans, except where the pavement has been changed as discussed in section 1.7 above.

Review of the road construction is as follows:

3.2 Subgrade

The underlying natural soils comprise sandy silts of varying strengths. Significant subgrade improvement works have been carried out as follows:

- Much of the Stage 16 subgrade consists of imported hardfill for the backfill of the stormwater and sanitary sewer underground lines beneath.
- All areas in the road carriageway that have not been backfilled with hard brown rock have been undercut to a minimum depth of 0.5m below subgrade level and replaced with a subgrade improvement layer of compacted hard brown rock.
- Subsoil drains have been laid beneath kerbs discharging into catchpits



Testing of the subgrade improvement layer included proof rolling with no visible weave, stringing by way of GPS survey, and Clegg hammer testing to confirm that a CIV>15 (CBR>15) had been achieved for all roads in Stage 16. Results of the Clegg hammer testing are included in Appendix 2(a).

A GPS survey was undertaken throughout Stage 16 and checked against the design surface. Results are included in Appendix 2(a), confirming that design pavements depths have generally been achieved to ITS tolerances.

All road subgrades have been tested using clegg hammers, showing that CBR values over 15 have been consistently achieved on all roads. The results from the Subgrade Clegg Hammer testing are summarised below:

Subgrade Clegg Hammer Results Summary

Range CIV 20 - 37	Min Inferred CBR 28*
Mean CIV 32	
Range CIV 21 - 42	Min Inferred CBR 31*
Mean CIV 33	
Range CIV 19 - 53	Min Inferred CBR 25*
Mean CIV 27	
Range CIV 20 - 46	Min Inferred CBR 28*
Mean CIV 29	
Range CIV 20 - 57	Min Inferred CBR 28*
Mean CIV 31	
Range CIV 25 - 35	Min Inferred CBR 44*
Mean CIV 29	
	Mean CIV 32 Range CIV 21 - 42 Mean CIV 33 Range CIV 19 - 53 Mean CIV 27 Range CIV 20 - 46 Mean CIV 29 Range CIV 20 - 57 Mean CIV 31 Range CIV 25 - 35

^{*}Note: $CBR = 0.07(CIV)^2$ formula applied in accordance with RITS

3.3 Subbase

Subdivision roading comprises of the following subbase types:

Road 1 CH 20 - 100	200mm WHAP 65 subbase – Stevensons
	Tauhei
Road 2, 2A, 3, 4 & Watkins St	No subbase aggregate on minor local streets
Extension	

QA Supplied for the subbase included in Appendix 2(b) includes the following:

- Material testing sheets
- Stringing or survey in lieu of stringing
- Compaction testing of subbase aggregate with Nuclear Densometer



- Clegg Hammer Tests

3.4 Basecourse

Subdivision roading comprises of the following basecourse types:

Road 1	150mm TNZ M/4 AP40 basecourse –
	Stevensons Tauhei
Road 2, 2A, 3, 4 & Watkins St Extension	200mm TNZ M/4 AP40 basecourse –
	Stevensons Tauhei

QA Supplied for the basecourse included in Appendix 2(b) includes the following:

- Material testing sheets
- Stringing
- Compaction testing of the basecourse with Nuclear Densometer
- Clegg Hammer tests
- Benkelman Beam testing

Stringing

Stringing of the basecourse was carried out from kerbs prior to sealing. Results are included in Appendix 2(b) confirming that design pavements depths have generally been achieved to ITS tolerances.

Clegg Hammer

Clegg hammer testing has been undertaken on the subdivision roading basecourse showing compliance with RITS.

Nuclear Densometer

Nuclear densometer testing was carried out by Opus in order to confirm density.

Nuclear Densometer testing has been undertaken in accordance with RITS Section 3.8.2.5 & 3.8.3.4, Table 3-22. Results are included in Appendix 2(b).

The Target MDD for the TNZ M/4 AP40 pavement is 2.75t/m3 as per Opus MDD report (project number: 2-68015.00, lab reference: HA 7753_VHMDD).

Results are summarised below:



Basecourse NDM Results Summary

Road 1 CH 20 - 100	Min 95% of MDD (Target MDD 2.30t/m3)	Mean 99% of MDD
Road 2A CH 10 - 50	Min 95% of MDD (Target MDD 2.30t/m3)	Mean 98% of MDD
Road 2 CH 10 - 160	Min 96% of MDD (Target MDD 2.30t/m3)	Mean 98% of MDD
Road 3 CH 10 - 360	Min 96% of MDD (Target MDD 2.30t/m3)	Mean 98% of MDD
Road 4 CH 160 - 270	Min 95% of MDD (Target MDD 2.30t/m3)	Mean 97% of MDD
Watkins St extension CH 30 - 70	Min 95% of MDD (Target MDD 2.30t/m3)	Mean 99% of MDD

3.5 Benkelman Beam Results

Benkelman beam tests were carried out by Opus on the basecourse surface following surfacing. Results are summarised below:

Basecourse Benkelman Beam Results Summary

	Deflection (mm)									
	Maximum (mm)	Minimum (mm)	%age over 1.8mm (A2)	Average (mm)						
Road 1 CH 20 - 100	1.08	0.74	0	0.88						
Road 2A CH 10 - 50	0.80	0.56	0	0.65						
Road 2 CH 10 - 160	0.84	0.36	0	0.59						
Road 3 CH 10 - 360	1.10	0.22	0	0.50						
Road 4 CH 160 - 270	1.36	0.42	0	0.72						
Watkins St extension CH 30 - 70	1.06	0.48	0	0.72						

Results conform to the maximum and average deflection requirements of Section 3.8.3.5, Table 3-23 of the RITS for A2 (up to 10⁵ EDA) roads.

3.6 Road Surfacing

A summary of road surfacing details laid by Higgins is listed below:

Road Surfacing Summary

Road 1	Membrane Seal	Surface		
Collector Road	Grade four single coat first coat seal Residual Application Rate: 1.0L/m ²	40mm DG10		
Local Roads 2, 2a, 3, 4 & Watkins St	Grade four single coat first coat seal Residual Application Rate: 1.0L/m ²	30mm DG7		

4.0 WATER INFRASTRUCTURE

4.1 Installation

The water supply reticulation completed by Online Contractors includes the following components:

- 150mm mPVC PN12RRJ principal main
- 63mm PE80 PN12.5 ridermain
- Associated fittings, valves and hydrants
- Residential connections to all lots

Quantities and installation locations are shown on as-built records appended to this document.

4.2 Testing and Disinfection

Online Contractors Ltd carried out all aspects of pressure testing of the supply lines and disinfection prior to livening, in accordance with the ITS and in the presence of HCC.

Testing included the following items:

- Water supply pressure test result
- Water Supply disinfection
- Water Supply E Coli test



The pressure test and the observation of FAC (Free Available Chlorine) was witnessed by HCC's testing officer. The E Coli test samples were collected as part of the testing and the samples have been reviewed by HCC Officer, L. Parkes and passed.

Pressure testing results, pipe laying checklists and Bacto Test results are included in Appendix 3.

5.0 WASTEWATER INFRASTRUCTURE

Supporting quality assurance documentation for Wastewater Infrastructure supplied by the contractor and reviewed by S&L is attached in Appendix 4.

The gravity sewerage system comprises installation of the following components:

- 225mm dia uPVC SN16 waste water main
- 150mm dia uPVC SN16 wastewater main
- 100mm dia uPVC SN16 sewer laterals and lot connections
- Associated manholes.

Testing and inspection includes the following:

- CCTV inspection which has been supplied separately to Council
- Inspection of Manhole Structures
- Pressure testing of Manhole Structures by West Construction observed by HCC
- Pressure testing of 225 dia and 150mm dia wastewater mains by West Construction observed by HCC
- As-builting by West Construction and S&L with final as-builts compiled by S&L.

6.0 STORMWATER INFRASTRUCTURE

6.1 Installation

In accordance with the approved design, stormwater from Stage 16 discharges into the Area K swales for treatment and conveyance:

• Swales 2A & 2B are located on the south side of Carrs Rd and flow north.

The primary system comprises of:

- UPVC & RCRRJ stormwater mains and headwalls
- UPVC laterals and lot connections
- Road catchpits and leads
- Manholes

Observation of the works was undertaken by S&L and includes:

- CCTV inspection which has been supplied separately to Council
- Inspection of all manhole structures, catch pits, outlets and inlets



 As-builting by Online Contractors and S&L Consultants with final as-builts compiled by S&L.

QA and checklists provided by the contractor and reviewed by S&L are included in Appendix 5.

6.2 Secondary flow paths

In accordance with the approved design, the stormwater from Stage 16 discharges into swales 2A & 2B for treatment and conveyance.

A piped drainage network has been designed to collect runoff from the road and lots with standard sumps. The pipes are designed to convey (without significant surcharge) the 50% AEP flows to the network of swales downstream. Each individual lot is provided with a piped connection to the main drainage system, in case on-lot soakage is not appropriate.

In events larger than a 50% AEP, secondary stormwater flows for Stage 16 will flow down the road shoulders to a low point within Road 3 and flow east across the road berm to spill into Swale 2A that butts the southern side of Carrs Road near the Athier Ave roundabout.

See attached as-built drawings 30410-01-S16-R1 and 30410-01-S16-SW1 in appendix 9 showing the location and direction of stormwater overland flow.

7.0 STREET LIGHTING, STREET MARKING AND SIGNAGE

Streetlights have been designed, supplied and installed by Ibex Lighting Ltd. All quality assurance documentation for the street lights is included in Appendix 7.

Signage has been installed by OLC subcontractor Directionz Ltd in accordance with approved drawings and RITS requirements.

Carriageway paint marking has been completed by OLC subcontractor Linemark Ltd and is in accordance with approved drawings and RITS requirements.

8.0 LANDSCAPING

8.1 Hard Landscaping

There are no hard landscaping works included in stage 16.

8.2 Soft Landscaping

The landscape planting within the road reserves and the stormwater swales has been completed. An inspection by HCC Parks and Open Spaces has been completed.



9.0 NETWORK UTILITIES

Network utilities have been provided as follows.

9.1 Power

Electrical reticulation has been installed by WEL Networks for both street lighting and residential supply.

A WEL Networks works clearance statement is attached in Appendix 7.

9.2 Gas

First Gas has installed reticulation to enable future connection by individual lot owners. A completion Certificate is included in Appendix 7.

9.3 Telecommunications

Ultrafast Fibre has installed reticulation to individual lots. An acceptance letter is included in Appendix 7.

10.0 FINAL INSPECTION

A final inspection has been undertaken and was attended by Hamilton City Council's Development Engineers and associated staff from S&L, Online Contractors and Ibex Lighting.

A separate inspection by Parks and Open Spaces has also been completed.



APPENDIX 1

Earthworks QA Documentation

 Core50 Engineers Report on Subdivision Earthworks & Recommendations for Building Development



GREENHILL PARK RESIDENTIAL SUBDIVISION

Stage 16
Area LUK, Greenhill Park, Hamilton

GEOTECHNICAL COMPLETION REPORT ON SUBDIVISION EARTHWORKS AND RECOMMENDATIONS FOR BUILDING DEVELOPMENT



Our Ref: CR171738-AREA-LUK-S16-01 v2 (FFL plan updated)

Prepared for: Chedworth Properties Limited

Date: March 2022

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1.0 Subdivision Development Earthworks

1.1 Introduction

Stage 16 of Greenhill Park is currently accessible from Webb Drive and Watkins Street. Stage 16 comprises 56 residential lots (numbered 450 to 480, 8001 to 8024 and 8117.). The locations of these lots are shown on attached subdivision plan 19-30410-16-RC1 included in Appendix A.

Bulk earthworks have been completed to re- contour the previously agricultural landscape for Stage 16 of the Greenhill Park Residential Subdivision in Hamilton. Works have been carried out in accordance with Hamilton City Council's (HCC) Subdivision Resource Consent: 0011.2019.7140.003. Prior to commencement of earthworks, geotechnical investigations were carried out by Beca Ltd (Beca) in 2016 [1] and summaries in DBCE Preliminary Geotechnical Report for L&K&Eldone (December 2019).

HCC's Infrastructure Technical Specifications (ITS) set out the minimum standards for design and construction of public infrastructure within Hamilton City. Section 2.1.5 of the *Earthworks and Geotechnical Requirements* of the ITS states that the developer shall appoint a geo-professional to carry out functions as described in NZS 4404[5] Section 2.2.4. ITS Section 2.3.3.1 states that a geotechnical completion report shall be submitted as per NZS 4404 Section 2.6 including a statement of professional opinion on the suitability of land for building construction [4]. The developer has appointed CORE50 Ltd as the geo-professional.

To satisfy the requirements of HCC's Resource Consent, the ITS and NZS 4404, this report summarizes the observations and testing undertaken during the development of the stage, discusses the suitability of the ground for the support of the proposed residential buildings and contains recommendations for the disposal of stormwater runoff generated on individual sites.

Included in Appendix A of this report is the proposed subdivision plan comprising the proposed new lots for Area LUK Stage 16. The included earthworks plan shows the cut/fill extent of the earthworks undertaken, test positions, and road and lot locations.

1.2 Earthworks in the Subdivision

The earthworks for stage 16 of the subdivision development were undertaken between October 2020 and February 2022.

These earthworks comprised:

- 1. The stripping of surface topsoil to expose underlying natural soils.
- 2. The placement of filling within majority of the stage.
- 3. Backfilling and raising the ground level with new fill to create uniform fill platforms.
- 4. The reinstatement of the surface topsoil cover and subsequent grassing.

The soils encountered during the formation of the site and road subgrades were a mixture of silty clay and clayey silt, typical of Walton group deposits in this area of Hamilton. These soils were those that had been identified in pre-construction site investigations by the Beca Report 2016. The published geology indicates that Area LUK soils comprise Hinuera Formation alluvium at surface with Walton Subgroup overlain by Hamilton Ash in the gently sloping hill within the LUK area.

The filling work was undertaken using these site soils gained from areas of cut within stage 16 and the larger Greenhill Subdivision. Filling was undertaken during summer seasons of 2020 to 2022, when drying back of the soils was possible to close to optimum moisture contents to achieve near maximum compaction densities.

Upon completion of the earthworks, approximately 100 to 300 mm of topsoil was placed across the sites and the finished surfaces were grassed in accordance with Conditions of the Resource Consent. Areas where an initial grass strike did not take place were re-grassed. While the target topsoil depths after the earthworks were to be around 300 mm, no guarantee is implied or given that the topsoil on any part of any lot is 300 mm or less and it is recommended that future owners or designers or builders check topsoil depths when preparing site development plans and cost schedules.

1.3 Earthworks Standards

The earthworks in filling were undertaken using in-situ Silty CLAY and clayey SILT mixtures gained from areas of cut within stage 16 and across the larger subdivision. The standards for the placement of filling, as stated in the earthworks contract documents, were to comply with NZS 4431:1989 "Code of Practice for Earth fill for Residential Development" and the Council ITS. Filling placed to these standards may be considered as good ground in terms of NZS 3604:2011 "Timber Framed Structures".

The compaction of the filling placed was monitored and tested for compaction density using a hand-held shear vane and nuclear densometer in finer grained Clayey SILT and Silty CLAY. The compaction control criteria adopted for engineered fill on site were as follows:

- Air voids percentage average value less than 10 %.
- Air voids percentage maximum single value 12 %.
- Undrained shear strength average value not less than 140 kPa.
- Undrained shear strength minimum single value 100 kPa.
- Compaction percentage average value not less than 95%.
- Compaction percentage minimum single value 90%.

1.4 Filled Ground

During the placement of filling on the road subgrades and on areas intended for residential development, the contractor, OLC, stripped and removed all topsoil and other surface organic soils. Post construction testing was carried out to confirm the interface between the cut and fill. Filling was placed in discrete layers with compaction applied through sheepsfoot drum rollers.

As most of the filling placed comprised clayey SILT and Silty CLAY identified in the pre subdivision boreholes, testing of the compaction achieved was mostly undertaken with a handheld shear vane and NDM testing (Nuclear Density Meter).

The results indicate that the construction filling standards have been met. However due to the expansive nature of the fill material, shallow or waffle foundations on all stage 16 lots must be designed to mitigate "M Class" expansive soils, i.e. NZS 3604:2011 foundations modified as per NZ Building Code B1/AS1 (28th November 2019) Section 7 or engineered waffle slabs constructed in compliance with AS2870-2011 Residential Slabs and Footings.

1.5 Areas of Cut

Areas partly developed in cut are shown on 19-30410-16-RC1 (Appendix A). Lots 472-477 had between 100mm–4500mm of cut material. In these areas, the ground at formation levels was observed to comprise the same Clayey SILT and Silty CLAY that had been used for filling elsewhere in stage 16 and as identified by pre subdivision tests.

1.6 Test Results in Filling Placed

A summary of the tests undertaken by CORE50 is present in Appendix D.

The shear vane and nuclear densometer test results show that acceptable soil strengths had been developed in all fill areas tested.

1.7 Test Results in Areas of Cut and Natural Ground

Lots 472 to 477 were predominately reshaped in cut only areas. The natural ground under the respread topsoil comprised of silty clay and clayey silts as had been identified in the pre-subdivision investigation boreholes.

The results of the tests undertaken indicate that "good ground" as defined in NZS3604:2011 is present. No areas that were tested will require any future ground improvement work for buildings supported.

1.8 Land Hazards

1.8.1 Land Stability

All lots across stage 16 have been graded as flat as possible with a desirable gradient of 0.5%. However, boundaries of various lots were battered to optimize use of fill material. Based on the competency of the inherent soils, building restriction zones of 3m from the top or any swale. Any lot bordering a stormwater swale has been identified as a TC2 zone for foundations. The foundation design for these lots will also need to allow for appropriate setback or alternative design options (i.e. underpinning) where adjacent to the swales.

Standard good practice around small slopes on the western and central sections of stage 16 will be required. Buildings should be set back from the slopes and avoid either surcharging the slopes or undermining the slopes. All foundations in this area are subject to specific design, and an assessment of the building location and earthworks should be carried out as a part of the engineering design/review of any section adjacent to a slope.

1.8.2 Flooding

The final lot levels have been set based on infrastructure requirements and freeboard from flood levels developed as part of the stormwater design for the larger subdivision. The means of disposal of stormwater runoff from lots in this stage of the subdivision are described in the catchment and overland flow assessments by Beca

(interpretive Report Lot Levels Area LUK). In the report for area LUK, a 1% AEP flood event is identified for each swale system. A list of minimum Lot Levels for Stage 16 is included in Appendix E.

Site grading during house construction must not lower finished levels below the minimum finished ground levels identified by S&L without further review of the impacts on flooding. Earthworks must not direct stormwater runoff to adjacent properties, or towards buildings, or create areas of localized ponding. All overland flow is to be towards the road frontage on each section, where falls will direct surface flow towards the swale system.

It is the responsibility of the building design professional to ensure that the requirements for mitigation for the hazard of flooding are met by the design prior to submitting to Council for consent. Confirmation of the swale construction and flood levels are excluded from the scope of this report and are to be covered separately with sign-off of infrastructure works.

1.8.3 Liquefaction

The potential for the hazard of liquefaction for Area LUK of the Greenhill Park Subdivision is discussed in the DBCE Preliminary Geotechnical Report. Foundations near the top of the swales are classed as TC2 like foundations. The liquefaction summary plan is appended to this Completion report. Specifically, the requirements are:

- 0m 1.5m no habitable dwellings to be built within 1.5 m of the swale crest.
- Lots adjacent to swales to have TC2 foundation designs.

1.8.4 Expansive Soils

Underlying soils within stage 16 are typically either Hinuera Formation based deposits, or Walton Subgroup. The Hinuera Formation is predominantly sand, and silt based and considered non expansive or slightly expansive. The Walton Subgroup has a much higher clay content and is considered slightly to moderately expansive. Given the volcanic origins, the expansive nature of the soils is generally non-recoverable i.e., shrinkage only. However, the relatively high shrinkage potential of the Walton Subgroup means it would be normal to classify this as moderately expansive in its insitu state i.e., 20-39mm. Majority of stage 16 consists of soil material from the Walton subgroup.

2.0 Disposal of Stormwater

Greenhill Park has been designed with a swale network to limit peak flows from the subdivision to 80 % of the 1 % AEP pre-development rate. S&L have provided the stormwater design for the current stage of the subdivision. As a part of this design, 100% of the onsite stormwater (up to the allowable impermeable area per lot) has been allowed for in the system design. As such, no at source on site stormwater measures are required as a part of the overall stormwater design. This allows for a centralized stormwater system with has been stated as preferred for long term maintenance by Council. The piped drainage network has been designed to convey the 10% AEP flows from roads and lots to the swale network, with each lot to be provided with a piped service connection. Flow volumes over this design event may run overland into the swale network as secondary flow.

We recommend that reduced onsite water efficiency measures such as catchpit filters and reuse tanks be encouraged to improve water efficiency and reduce the sediment load downstream. Such measures should be at the discretion of the end user on a case by case basis.

The above recommendations do not supersede any additional measures that Council may require of each individual lot. Any Council requirements in addition to the subdivision design should be followed. Any such requirements should be confirmed from Council for this area. Any lot coverage over the maximum permited will require site specific stormwater management to offset the effects of added runoff volume.

3.0 Retaining Walls

There are no retaining walls that were constructed by the developer within stage 16.

4.0 Professional Opinion

It has been demonstrated in this Geotechnical Completion Report, that earthworks have been completed and building platforms have been constructed to comply with Council's ITS specifications and the New Zealand Building Code. Recommendations have been provided within the report for the disposal of stormwater from individual lots, for the ongoing development of the lots and for the mitigation of liquefaction risk where applicable.

In accordance with ITS Section 2.3.3.1, a statement of professional opinion is enclosed in Appendix II of this document. This statement is presented in the form of Checklist 2.2 of Council's Development Manual, Volume 4: Quality Systems for Land Development, and is accompanied by a *Summary of Geotechnical Data for Individual Lots* which summarizes the information and recommendations contained in this report.

5.0 Applicability

Recommendations contained in this document are based on data from observations of site earthworks, boreholes, and test results. Inferences about the nature and continuity of subsoils away from these locations are made but cannot be guaranteed.

In all circumstances, if variations in the subsoils occur which differ from those described or are assumed to exist, the site should be inspected by an engineer suitably qualified to make an informed judgement and provide advice on appropriate improvement measures.

This report has been prepared specifically for Stage 16 as shown for Lots: 450 to 480, 8001 to 8024 and 8117 of Area LUK Stage 16 within the Greenhill Park Residential Subdivision. No responsibility is accepted by CORE50 Ltd for the use of any part of this report for other development sites without their written approval.

Report Prepared By:		Date: 11 th March 2022			
	Aaron Kennedy				
	Civil Engineer				
Report Reviewed By:		Date: 18 th March 2022			
	Michael Richardson				
	Geotechnical Engineer				

References

- [1] Ruakura Land Development LDP Geotechnical Factual Report by Beca, 15 April 2016.
- [2] C. Hughes and K. Read, "Ruakura Development Stage 1 Geotechnical Investigation Liquefaction Potential Detailed Assessment," Opus International Consultants, Ltd., Hamilton, New Zealand, 2014.
- [3] M. Hughes and L. Shuler, "Report on Preliminary Geotechnical Investigation, Ruakura Development, Hamilton," S&L Consultants, Ltd., Tauranga, New Zealand, 2015.
- [4] "Section 2 Earthworks and Geotechnical Requirements," in *Infrastructure Technical Specifications*, Hamilton, New Zealand, Hamilton City Council, 2013.
- [5] "NZS 4404 Land Development and Subdivision Infrastructure," in *New Zealand Standards*, Wellington, New Zealand, Standards New Zealand, 2010.
- [6] "Greenhill Park Geotechnical Interpretation and Design-Area 1" by Beca 28 October 2016.
- [7] "Part 5: Earthquake Actions New Zealand," in NZS 1170.5:2004 Structural Design Actions, Standards New Zealand, 2004.
- [8] "Greenhill Park Design Report Area I (Stage 5, 6, 7 & 8) by Beca 20 December 2016
- [9] "Clause B1: Structure," in *Acceptable Solutions and Verification Methods For New Zealand Building Code*, Wellington, Ministry of Business, Innovation and Employment, 2014.
- [10] "Part A: Technical Guidance," in *Repairing and rebuilding houses affected by the Canterbury earthquakes*, Wellington, Ministry of Business, Innovation and Employment, 2012.
- [11] "Clause E1: Surface Water," in *Acceptable Solutions and Verification Methods For New Zealand Building Code*, Wellington, Ministry of Business, Innovation and Employment, 2014.
- [12] "Section 4 Stormwater," in *Infrastructure Technical Specifications*, Hamilton, New Zealand, Hamilton City Council, 2015.
- [13] "Preliminary Geotechnical Report for L&K&Eldone" by DBCE December 2019.

Appendix A <u>Reference Drawings</u>

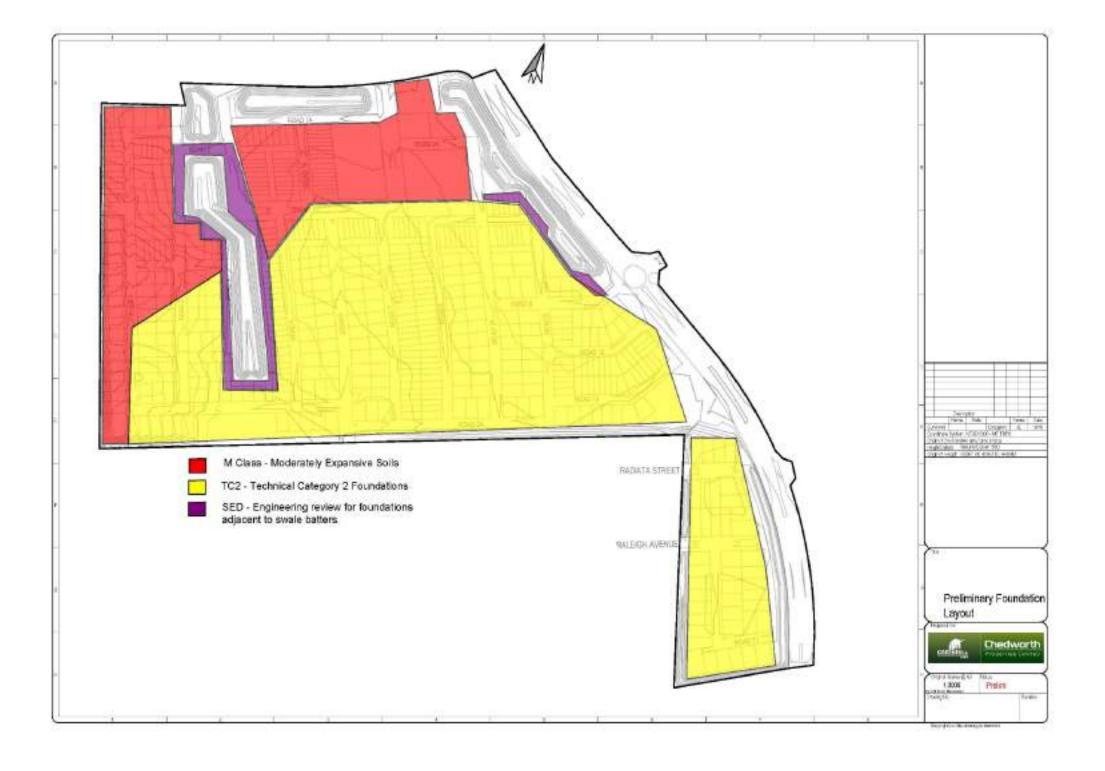
Subdivision plan 19-30410-16-RC1

Cut/Fill Plan

Preliminary Subdivision Foundation Plan







Appendix B <u>Geotechnical Completion Forms</u>

Checklist 2.2 - Statement of Professional Opinion Summary of Geotechnical Data for Individual Lots NZS 4404: 2010 SCHEDULE2A (Checklist 2.2)

STATEMENT OF PROFESSIONAL OPINION AS TO SUITABILITY OF LAND FOR BUILDING CONSTRUCTION

Development: Greenhill Park LUK Stage 16 **Developer:** Chedworth Properties Limited

At Pardoa Boulevard, Chartwell, Hamilton (Mussel White Street and Earp Crescent)

I, Michael Richardson of CORE50 Ltd, PO Box 1123, Taupo

Hereby confirm that:

- 1.0 I am a geo-professional as defined in clause 1.2.2 of NZS 4404:2010 and was retained by the developer as the geo- professional on the above development.
- 2.0 The extent of my inspections during construction, and the results of all tests carried out are described in my geotechnical completion report for Greenhill Park Area LUK Stage 16 dated March 2022 (reference 171738-AREA-LUK-S16-01).
- 3.0 In my professional opinion, not to be construed as a guarantee, I consider that:
 - a. The completed works give due regard to land slope and foundation stability considerations.
 - b. The site ground affected by engineered certified filling is suitable for the erection thereon of buildings designed according to the report recommendations provided that:
 - i. Lots 450 and 8117 are subject to engineering review of foundations addressing TC2 liquefaction ground damage for the ULS design case.
 - Remainder of Lots are subject to engineering review of foundations addressing M Class foundation requirements.
 - iii. All lots are subject to an engineering inspection during foundation excavations in lieu of further soils testing. Construction supervision from an engineer shall be carried out to confirm the shallow ground conditions are in accordance with this report and suitable for NZS3604 foundations for bearing strength.
- 4.0 This professional opinion is furnished to Hamilton City Council and the developer for their purposes alone on the express condition that it will not be relied upon by any other person and does not remove the necessity for the normal inspection of foundation conditions at the time of erection of any dwelling.
- 5.0 This certificate shall be read in conjunction with my geotechnical completion report referred to in clause 2 above and shall not be copied or reproduced except in conjunction with the full geotechnical completion report.

Signed		Date: 11 March 2022
	Michael Richardson	
	Chartered Professional Engineer (Geotechnical)	
	CPEng 1005467	

Summary of Geotechnical Data for Individual Lots

DP No	p: Property Address Greenhill Park, Stage 16, Hamilton RC No:										RC No: 11/2019/7140/003								
		Subsurface Data Foundations																	
		Shear		odivision Filling	Natural Topography Unworked	Top:	atural ography arth orked		Specific Design	Building Restriction Line	S/W Specific Design	S/W Soakage	S/W Reticulated	Designated Building Platform	Minimum Building Platform	Compressible Soils	On-site Effluent Disposal	Consent Notice	
Lot	Area	Strength	Y/N	Depth	Y/N	Y/N	Depth	Y/N/NA	Y/N/NA	ctio	esig	ė	ted	ldin	ding	Soil	ent	ice	
No:	(m ²)	(kPa)		(m)			(mm)							ğ	υq	S			Comment
450	412	140 - 205+	Υ	0.2-2.02	N	Υ	200 ²	N	Υ ³	Υ	N ⁴	N	Z	N	Υ	Ν	N	Υ	SED – Engineering review for foundations adjacent to swale batters.
451	367	205+	Υ	0.2-0.6 ²	N	Υ	200 ²	N	Y ¹	N	N^4	N	Ν	N	Υ	N	N	Υ	
452	379	186 - 205+	Υ	0.2-0.82	N	Υ	200 ²	N	Υ1	N	N^4	Ν	Ν	N	Υ	Ν	N	Υ	Ground water at 1800mm.
453	391	179 – 205+	Υ	0.2-1.22	N	Υ	200 ²	N	Υ1	Υ	N^4	Ν	Ν	N	Υ	N	N	Υ	
454	322	127 – 205+	Υ	0.2-1.22	N	Υ	200 ²	N	Υ1	Υ	N^4	Ν	Ν	N	Υ	N	N	Υ	
455	330	205+	Υ	0.2-1.42	N	Υ	200 ²	N	Υ1	Υ	N^4		Ν	N	Υ	Ν	N	Υ	
456	559	90 – 205+	Υ	0.2-1.5 ²	N	Υ	200 ²	N	Y ¹	Υ	N^4		Ν	N	Υ	N	N	Υ	
457	345	107 – 205+	Υ	0.2-0.3 ²	N	Υ	3000 ²	N	Y ¹	Υ	N^4	Ν	Ν	N	Υ	N	N	Υ	
458	345	167 – 205+	Υ	0.2-0.3 ²	N	Υ	4000 ²	N	Y ¹	Υ	N^4	Ν	Ν	N	Υ	N	N	Υ	
459	345	107 – 205+	Υ	$0.2 - 0.5^2$	N	Υ	4500 ²	N	Y ¹	Υ	N^4	Ν	Ν	N	Υ	Ν	N	Υ	
460	345	149 – 205+	Υ	$0.2 - 0.5^2$	N	Υ	5000 ²	N	Y ¹	Υ	N^4	Ν	Ν	N	Υ	Ν	N	Υ	
461	345	129 – 205+	Υ	0.2-0.5 ²	N	Υ	5000 ²	N	Y ¹	Υ	N^4	Ν	Ν	N	Υ	N	N	Υ	
462	345	107 – 162	Υ	0.2-0.5 ²	N	Υ	5000 ²	N	Y ¹	Υ	N^4	Ν	Ν	N	Υ	N	N	Υ	
463	425	114 – 205+	Υ	$0.2 - 0.5^2$	N	Υ	4500 ²	N	Υ1	N	N^4		Ν	N	Υ	Ν	N	Υ	
464	300	140 – 205+	Υ	$0.2 - 0.5^2$	N	Υ	4500	N	Υ1	Υ	N^4		Ν	N	Υ	Ν	N	Υ	
465	425	156 – 205+	Υ	$0.2 - 0.5^2$	N	Υ	4500	N	Y ¹	N	N^4		Ν	Ν	Υ	Ν	N	Υ	
466	345	96 – 205+	Υ	$0.2 - 0.8^2$	N	Υ	5000 ²	N	Υ ¹	Υ	N^4		N	N	Υ	N	N	Υ	
467	345	84 – 205+	Υ	$0.2-1.0^2$	N	Υ	5000 ²	N	Y ¹	Υ	N^4		Ν	N	Υ	Ν	N	Υ	
468	345	159 – 205+	Υ	0.2-1.0 ²	N	Υ	4500 ²	N	Υ1	Υ	N^4		Ν	N	Υ	Ν	N	Υ	
469	345	96 – 205+	Υ	0.2-1.0 ²	N	Υ	3500 ²	N	Υ ¹	Υ	N^4		N	N	Υ	N	N	Υ	
470	345	114 – 205+	Υ	0.2-1.02	N	Υ	2000 ²	N	Υ1	Υ	N^4		N	N	Υ	N	N	Υ	
471	345	146 – 205+	Υ	0.2-0.42	N	Υ	1200 ²	N	Υ1	Υ	N ⁴		N	N	Υ	N	N	Υ	
472	490	117 – 161	Υ	0.22	N	Υ	4000 ²	N	Υ ¹	Υ	N ⁴		N	N	Υ	N	N	Υ	
473	441	111 – 205+	Υ	0.22	N	Υ	4000 ²	N	Υ ¹	Υ	N ⁴		Ν	N	Υ	N	N	Υ	
474	447	96 – 186	Υ	0.22	N	Υ	4000 ²	N	Υ ¹	Υ	N ⁴		N	N	Υ	N	N	Υ	
475	363	107 – 205+	Y	0.22	N	Y	4000 ²	N	γ1	Y	N ⁴		N	N	Υ	N	N	Υ	
476	428	205+	Y	0.22	N	Y	3500 ²	N	γ ¹ γ ¹	Y	N ⁴		N	N	Y	N	N	Υ	
477	434	140 – 205+	Y	0.22	N	Y	3000 ²	N	γ¹ γ¹	Y	N ⁴		N	N	Y	N	N	Υ	
478	400	104 – 159	Y	0.2-0.8 ²	N	Y	2000 ²	N	Υ	Y	N ⁴		N	N	Y	N	N	Υ	
479	400	84 – 205+	Υ	$0.2 - 0.5^2$	N	Υ	2000 ²	N	Y	Y	IN⁴	Ν	Ν	N	Y	Ν	N	Υ	

Summary of Geotechnical Data for Individual Lots

DP No	P No: Property Address				Greenhill Park, Stage 16, Hamilton								RC No: 11/2019/7140/003						
		Subsurfa			ace Data			Foundatio	S/B		<u>S</u>		D		0				
				division	Natural		atural		Specific	Building L	S/W Specific Design	S/	S/W Reticulated	Designated Building Platform	Minimum Building Platform	Compressible Soils	On-	Cor	
			F	illing	Topography	Topo	ography	Shallow	Design	ing	pe	8	R	nat Pla	mu Pla	pre	sit Dis	est	
					Unworked		arth	Foundation to			Cifi	Sos	etic=	nated Βι Platform	mum Bui Platform	SSİ	site Efflu Disposal	nt	
		Shear				W	orked	NZS 3604:2011		Restriction ine	c De	S/W Soakage	ulat	Bui rm	Buil	ble :	On-site Effluent Disposal	Consent Notice	
Lot	Area	Strength	Y/N	Depth	Y/N	Y/N	Depth	Y/N/NA	Y/N/NA	ctio	esie	e	ted	ldir	din	ŝoil	ent	ice	
No:	(m ²)	(kPa)		(m)			(mm)			ž	'n			g	900	S			Comment
480	396	143 – 205+	Υ	0.22	N	Υ	1000 ²	N	Υ1	Υ	N ⁴	N	N	N	Υ	N	N	Υ	
8001	212	156 – 205+	Υ	0.2-1.5 ²	N	Υ	200 ²	N	Υ1	Υ	N^4	Ν	N	N	Υ	Ν	N	Υ	
8002	182	156 – 205+	Υ	$0.2 - 1.5^2$	N	Υ	200 ²	N	Υ1	Υ	N^4	Ν	Ν	N	Υ	Ν	N	Υ	
8003	184	134 – 205+	Υ	$0.2 - 2.0^2$	N	Υ	200 ²	N	Υ1	Υ	N^4	Ν	Ν	N	Υ	Ν	N	Υ	
8004	185	134 – 205+	Υ	$0.2 - 2.0^2$	N	Υ	200 ²	N	Υ ¹	Υ	N^4	Ν	Ν	N	Υ	Ν	N	Υ	
8005	213	161 – 205+	Υ	$0.2 - 1.5^2$	N	Υ	200 ²	N	Υ1	Υ	N^4		Ν	N	Υ	Ν	N	Υ	
8006	215	161 – 205+	Υ	$0.2 - 1.5^2$	N	Υ	200 ²	N	Υ1	Υ	N^4	Ν	N	Ν	Υ	N	N	Υ	
8007	190	114 – 205+	Υ	$0.2 - 1.2^2$	N	Υ	200 ²	N	Υ1	Υ	N^4	Ν	N	Ν	Υ	Ν	N	Υ	
8008	191	114 – 205+	Υ	$0.2 - 1.0^2$	N	Υ	200 ²	N	Υ1	Υ	N^4	Ν	Ν	Ν	Υ	Ν	Ν	Υ	
8009	193	167 – 205+	Υ	$0.2 - 0.6^2$	N	Υ	200 ²	N	Υ ¹	Υ	N^4	Ν	N	Ν	Υ	N	N	Υ	
8010	194	167 – 205+	Υ	$0.2 - 0.4^2$	N	Υ	1500 ²	N	Υ1	Υ	N^4	Ν	N	Ν	Υ	Ν	N	Υ	
8011	325	137 – 205+	Υ	0.2^{2}	N	Υ	2000 ²	N	Υ1	Υ	N^4	Ν	Ν	Ν	Υ	Ν	Ν	Υ	
8012	272	130 – 205+	Υ	$0.2 - 0.5^2$	N	Υ	2000 ²	N	Υ1	Ν	N^4	Ν	N	Ν	Υ	N	N	Υ	
8013	177	130 – 205+	Υ	$0.2 - 0.5^2$	N	Υ	2000 ²	N	Υ1	N	N^4	Ν	Ν	Ν	Υ	Ν	Ν	Υ	
8014	177	104 – 205+	Υ	$0.2 - 0.8^2$	N	Υ	2000 ²	N	Υ1	N	N^4		Ν	N	Υ	Ν	N	Υ	
8015	177	104 – 205+	Υ	$0.2 - 1.0^2$	N	Υ	2000 ²	N	Υ1	N	N^4	Ν	N	Ν	Υ	Ν	Ν	Υ	
8016	177	111 – 205+	Υ	$0.2 - 1.0^2$	N	Υ	2000 ²	N	Υ1	N	N^4		N	Ν	Υ	Ν	Ν	Υ	
8017	212	111 – 205+	Υ	$0.2 - 1.0^2$	N	Υ	2000 ²	N	Υ1	N	N^4	Ν	N	Ν	Υ	Ν	Ν	Υ	
8018	250	96 – 205+	Υ	$0.2 - 0.5^2$	N	Υ	200 ²	N	Υ1	N	N^4	Ν	N	Ν	Υ	Ν	N	Υ	
8019	145	96 – 205+	Υ	$0.2 - 0.5^2$	N	Υ	200 ²	N	Υ1	N	N^4		N	Ν	Υ	Ν	N	Υ	
8020	145	96 – 205+	Υ	$0.2 - 0.5^2$	N	Υ	200 ²	N	Υ1	Ν	N^4	Ν	N	Ν	Υ	N	N	Υ	
8021	145	96 – 205+	Υ	$0.2 - 0.5^2$	N	Υ	200 ²	N	Υ ¹	Υ	N^4	Ν	Ν	N	Υ	Ν	N	Υ	
8022	145	75 – 202	Υ	$0.2 - 0.5^2$	N	Υ	200 ²	N	Υ1	Υ	N^4	Ν	Ν	N	Υ	Ν	N	Υ	
8023	145	75 – 202	Υ	$0.2 - 0.5^2$	N	Υ	200 ²	N	Υ ¹	Υ	N^4	Ν	Ν	N	Υ	Ν	N	Υ	
8024	145	159 – 205+	Υ	$0.2 - 0.5^2$	N	Υ	200 ²	N	Υ ¹	Υ	N^4	Ν	Ν	N	Υ	Ν	N	Υ	
8117	229	159 – 205+	Υ	$0.2 - 0.5^2$	N	Υ	200 ²	N	γ3	Υ	N ⁴	Ν	Ν	N	Υ	Ν	N	Υ	SED – Engineering review for
																			foundations adjacent to swale batters.

NOTES:

- 1) M Class Foundations required.
- 2) This considers approximately 200mm of topsoil removal across all lots prior to subdivision filling.
- 3) Setback required for properties adjacent swales. TC2 type foundation to be adopted for all lots adjacent to swales. No foundations to be constructed <1.5m from top of slope. No specific engineer design required >3m from top of slope.
- 4) Soakage testing is not required on individual lots. On site stormwater runoff reduction measures encouraged, i.e; Re-use tanks, filters, and catchpits.

Appendix C <u>Laboratory Testing</u> Summary Plan

Fill Material Lab Testing.

PLASTICITY INDEX FOR SOILS TEST REPORT



Project:

Greenhill Park

Location:

Greenhill Park

Client:

DB Consulting Limited

Contractor:

Sampled by: Date sampled : Client 9/10/2020

Date received: Sampling method: 12/10/2020 Bulk Sample

Sample condition:

As received

Project No:

2-68165.00 HA6441 PI

Lab Ref No:

Client Ref No:

		Test Results	
	Sample Lab Ref No :	HA6441	
	Sample Location ID :	Not Stated	
	Sample Depth (m):	Not Stated	
	Soil Fraction Tested :	-425µm	
	Natural Water Content (96) :	50.8	
	Liquid Limit:	m	
	Plastic Limit : Plasticity Index :	50	
		61	
	Sample Description :	HA6441_PI	CLAY with some silt and trace sand
Test Methods		Notes	
Water Content Liquid Limit Plastic Limit	NZS 4402 : 1986, Test 2.1 NZS 4402 : 1986, Test 2.2 NZS 4402 : 1986, Test 2.3 NZS 4402 : 1986, Test 2.4	Soil fraction teste	d as shown.

Date tested: Date reported : 21/10/20

16/10/20

Sampling is not covered by IANZ Accreditation. Results apply only to sample tested.

This report may only be reproduced in full

All information supplied by Client

IANZ Approved Signatory

Designation :

Senior Civil Engineering Technician

Date:

21/10/20

CCREDITY WG LABORES

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation

LHF 2402 [08/20]

Page 1 of 1

WSP

Hamilton (Fox 5t)

Quality Management Systems Certified to ISO 9001

4 Fox Street

Private Bag 3057, Walkato Mail Centre, 3240.

Hamilton, New Zealand

Telephone +64 7 856 2870 Website www.wsp.com/nz

PARTICLE SIZE ANALYSIS (WET SIEVE METHOD)

TEST REPORT

Project : Greenhill Park Location: Greenhill Park

Client: **DB** Consulting Limited

Client/Sample Ref : Not Stated

Contractor:

Borehole No: Not Stated Depth: Not Stated

Sampled by: Client 12/10/20 Date received : Sampling method: Bulk Sample Sample condition: As received Sample description: Sandy CLAY/SILT Solid Particle Density (t/m3):

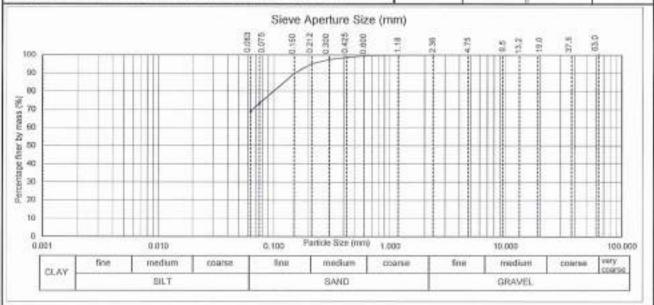
N/A

Water Content (as received) 38.8

2-68165.00 Project No: Lab Ref No: HA6441_PSD

Client Ref:

		Sieve An	Hydrometer Analysis						
Sieve Size (mm)	Passing (%)	Sieve Side (mm)	Passing (%)	Sleve Size (mm)	Passing (%)	Particle Size (mm)	Paning (%)	Particle Size (mm)	Passing (%)
63.0	-	4.75	7 -	0.300	97	5-44-0	-	- 1	-
37.5	5-4	2.36	100	0.272	95	154	-	-	-
19.0		1,18	100	0.150	90		111	-	
13.2	-	0.600	99	0.075	73	100	16	-	-
9.5		0.425	99	0.063	69	3.43	100		-
Note	'-' denotes sie	ve not used and	44.0						



Test Methods Notes

Particle Size Analysis NZS 44021986: Test 2.8.1 (Wet Sleve Method)

Sampling is not covered by IANZ Accreditation. Results apply only to sample tested.

CORDITED

Date Tested 19/10/20 This report may only be reproduced in full

21/10/20 Date Reported:

IANZ Approved Signatory

Designation -Senial civil Engineering Technician

21/10/20 Date:

Page 1 of 1

All tests reported herein have been performed in accordance with the

laboratory's scope of accreditation

Hamilton (Fox 5t)

PE-LAB-100 (1)(07/2020)

PARTICLE SIZE ANALYSIS (HYDROMETER METHOD) TEST REPORT



Project : Greenhill Park Location : Greenhill Park

Client: DB Consulting Limited

Client/Sample Ref : Not Stated

Contractor :

Borehole No: Not Stated Depth: Not Stated

Sampled by: Client
Date received: 12/10/20
Sampling method: Bulk Sample
Sample condition: As received

Sample description: CLAY with some silt and trace sand

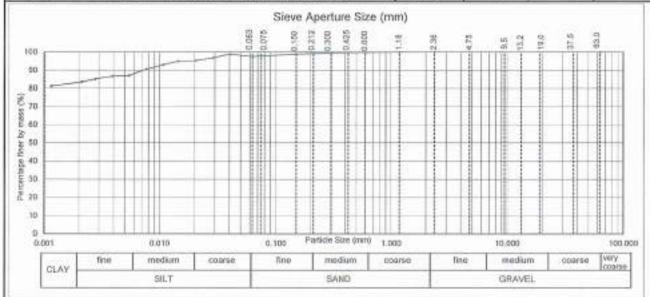
Solid Particle Density (t/m³): 2.80 Assumed

Water Content (as received) 50.8 96

Project No. 2-68165.00 Lab Ref No. HA6441_PSA

Client Ref:

		Sieve An	Hydrometer Analysis						
Sieve Size (mm)	Passing (%)	Sieve Stre (mm)	Passing (%)	Sieve Size (mm)	Passing (%)	Particle Size (mm)	Passing (96)	Particle Size	Passing (%)
63.0	-	4.75	14-	0.300	99	0.0403	99	0.0054	87.
37.5		2.30	100	0.212	99	0.0288	97	0.0039	87
19.0	230	1.18	100	0.150	99	0.0205	95	0.0028	85
15.2	24	0.600	100	0.075	98	0.0145	95	0.0021	84
9.5		0.425	100	0.063	.98	0.0107	93	0:0012	81
Note	"-" denates sie	ve not used and	or hydrometr	er analysis not b	ested	0.0077	91		



Particle Size Analysis NZS 44021986: Test Z-8.4 (Washed Grading & Hydrometer Method) pH of suspension : 8.0 (Whatmans Full Range pH Indicator paper)
All Information supplied by Client

Sampling is not covered by IANZ Accreditation. Results apply only to sample tested.

Notes

GERROITE

Date Tested: 20/10/20 This report may only be reproduced in full

Date Reported: 21/10/20

IANZ Approved Signatory

Designation : Senior Will Engineering Technician

Date: 21/10/20

All tests reported herein have been performed in accordance with the laboratory's scape of accreditation

PF-LAB-100 (1/109/2020) Page 1 of 1

WSP

Test Methods

Hamilton (Fox 5t)

Quality Management Systems Certified to ISD 9001

4 Fox Street

Private Bag 3057, Walkato Mail Centre, 3240, Hamilton, New Zealand Telephane +64 7 856 2870 Wabsite www.wsp.com/nz

LINEAR SHRINKAGE FOR SOILS TEST REPORT



Greenhill Park

Location:

Greenhill Park

Client:

DB Consulting Engineers Ltd

Contractor:

Sampled by : Date sampled : Client 09/10/20

Date received :

12/10/20

Sampling method:

Bulk Sample

Sample condition:

As received

1120

Project No:

2-68165.00

Lab Ref No:

HA6441 L5

Client Ref No:

	Test Res	ults
Sample Lab Ref No :	HA6441	
Location ID :	Not Stated	
Sample Depth (m):	Not Stated	
Soil Fraction Tested :	-425µm	
Sample History :	Natural	
Water Content as Rec'd (%):	50.8	
Water Content at LS test (%):	110.4	
Linear Shrinkage (%):	24	
Sample Description: HA6441		CLAY with some silt and trace sand
est Methods		Notes.
ater Content NZS 4402 : 1986, Test 2.1		
near Shrinkage NZS 4402 : 1986, Test 2.6		

Date tested:

20/10/20

Sampling is not covered by IANZ Accreditation. Results apply only to sample tested.

Date reported + 21/10/20

This report may only be reproduced in full

All information supplied by Client

IANZ Approved Signatory

Designation:

Senior Civil Engineering Technician

Date:

21/10/20

TANING LABORNOS

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation

LHF 2403 (08/20)

Page 1 of 1:

WSP

Hamilton (Fox St)

Quality Management Systems Certified to ISO 9001

4 Fox Street

Private Bag 3057, Waikato Mail Centre, 3240,

Hamilton, New Zealand

Telephone +64 7 856 2870 Website www.wsp.com/nz

DRY DENSITY / WATER CONTENT RELATIONSHIP STANDARD COMPACTION



Project : Greenhill Park Location : Greenhill Park

Client: DB Consulting Engineers Ltd

Contractor:

Sampled by : Client
Date sampled : 9/10/20
Sampling method : Bulk Sample

Sample description: CLAY with some silt and trace sand. Reddish brown

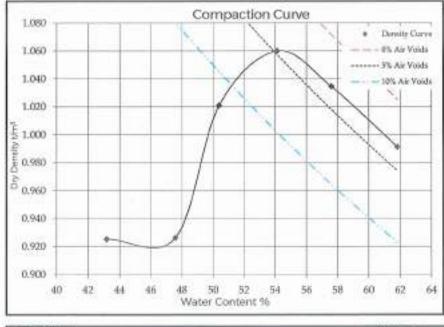
Sample condition : As received Project No : 2-68165,00

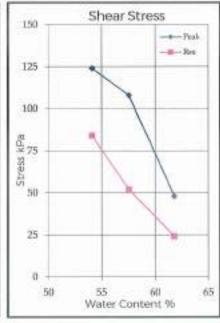
Solid density: 2.80 t/m³ (Assumed) Lab Ref No: HA6441/2_MDD

Source: Not Stated

	-100-		1	est Results				
Maximum dry dens Optimum water co		1.06 54	t/m³ 96		Natural wa Fraction te		50,4 assing 19m	% ım sleve
Sample ID		-120	-60	Nat	60	120	180	
Bulk density	t/m³	1.325	1.367	1.535	1,634	1.631	1.604	
Water content	96	43.2	47.6	50,4	54.1	57.6	61.B	
Dry density	t/m³	0.925	0.926	1.021	1.060	1.035	0.991	
Sample condition		Hard	Hard	V.Stiff	Stiff	Firm	Soft	
		Dry	Moist	Moist	Moist	Moist-wet	Wet	
Peak stress	kPa	U.T.P	U.T.P	>192	124	108	48	
Remoulded stress	kPa	-	-	>192	84	52	24	

Client Ref No:





Test Methods		Notes	
Compaction	NZ5 4402 : 1986 Test 4.1.1 (Standard)	All information supplied by Client	
Shear Strength u	sing a Hand Held Shear Vane, NZ Geotechnical Soc Inc 8/2001	VIANTA CONTRACTOR VIA CONTRACTOR VIANTA CONTRACT	

Date tested : 21/10/20 Date reported : 27/10/20 Sempling is not covered by IANZ Accreditation. Results apply only to sample tested.

orted: 27/10/20 This report may only be reproduced in full

IANZ Approved Signatory

Designation: Senior Civil Engineering Technician

Date: 27/10/20

TANKO LANGRANO

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation

PF-LAB-025 (10)(07/20)

Page 1 of 1

WSP

Hamilton (Fox St)

Quality Management Systems Certified to ISO 9001

4 Fox 5treet

Private Bag 3057, Walkato Mail Centre, 3240, Hamilton, New Zealand Telephone +64.7.856.2870 Website www.wsp.com/nz Appendix D <u>Post Construction Test Results</u> Soil Tests by CORE50 NDMs





Project Name	Job Ref.		
Subdivision Test & Repo Stage 16, Greenhill Par	171738-AREA	\-LUK-S16-	
Tested by		Sheet No.	Test Site
AK	3/02/2022	1	450

		No of		Scala	a Penetrometer		
Depth (mm)	Undrained Shear (kPa)	blows	(Blows/100mm)		ows/100mm)	Soil Description	Water Table
(11111)	Onear (KFa)	/100mm	0	2 4 6	8 10 12 14 16		I abic
100					Good		
200					Ground Result	TOPSOIL.	
300					rtodut		
400	UTP						
500						ENGINEERED FILL: CLAY SILT, mix of brown and light	
600						grey, very stiff to hard, low moisture, high plasticity,	
700	167/33					moderately sensitive.	
800							
900							
1000	>205/			000		1000mm: Becoming moist.	
1100						1100mm: Becoming brown streaked light grey.	
1200							
1300	143/53					1300mm: Becoming very stiff.	
1400							
1500							
1600	134/53						
1700							
1800							
1900	>205/					1900mm: Becoming hard.	
2000						Clayey SILT, dark brown, hard, low moisture.	
2100	>205/					EOB at 2.0m, Target Borehole Depth	
2200							
2300							
2400							
2500							
2600							
2700							
2800							
2900							
3000							
3100							
3200							
3300							
3400	_						
3500							

Notes:	EOB = End Of Borehole	UTP = Unable To Penetrate	UTE = Unable To Extract
1	Weather leading up to testing was: Fine		

- 2 Ground water was not encountered during testing
- Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 3
- 4 Shear Vane records include Re-moulded values where possible
- Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Greenhill Park Stage 16	171738-AREA-LUK-S16-		
and Test Repo	01		
Tested by	Date	Sheet No.	Test Site
Jessel Ladwa	23/06/2021	2	451

Depth (mm)	Undrained Shear (kPa)	No of blows Scala Penetrometer (Blows/100mm) Soil Description /100mm 0 2 4 6 8 10 12 14 16		(Blows/100mm)		Soil Description	Water Table
100					Good	Topsoil	
200					Ground	Τορѕοιι	
300	>205/				- Result		
400							
500						ENGINEERED FILL: Clayey SILT, brown, streaked	
600	>205/					orange, very stiff	
700							
800							
900	>205/						
1000			,,,			Clayey SILT, brown, streaked orange, very stiff,	
1100						moist	
1200	>205/						
1300							
1400							
1500	>205/						
1600						Clayey SILT, brown, streaked orange and white, very stiff,	
1700						moist	
1800							
1900	>205/						
2000						EOB @ 2m	
2100							
2200							
2300							
2400							
2500							
2600							
2700							
2800							
2900							
3000							
3100							
3200							
3300							
3400							
3500							

- 1 Weather leading up to test was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Subdivision Test & Repo Stage 16, Greenhill Par	171738-ARE	A-LUK-S16-	
<u> </u>	•	Sheet No.	Test Site
AK	23/06/2021	3	452

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	(Blo	Penetrometer ws/100mm) 8 10 12 14 16	Soil Description	Water Table
100				Good Ground	TOPSOIL.	
200				Result		
300					ENGINEERED FILL: SILT with some clay and traces	
400	186/36				of fine pumiceous material and mica, orange brown	
500					grey streaks mottled orange, very stiff to hard, low moisture, high plasticity, sensitive.	
600	. 005				moisture, nigri piasticity, sensitive.	
700	>205		i			
800					CUT	
900	>205	2	, i		SILT with some fine sand, grey mottled yellow, hard, low moisture, low moisture.	
1100	>205	3	1 1		moisture, iow moisture.	
1200		3	 		1200mm: Becoming moist.	
1300		3			1300mm: Becoming sandy. Fine sand.	
1400		3			1900mm. Becoming surely. I me sure.	
1500		2			1500mm: Becoming traces of fine sand.	
1600		4			10001mm 20001mmg (10000 or mile outlide	
1700		3			1800mm: Becoming wet.	
1800		3			Ü	•
1900		4				
2000						
2100					EOB at 2.0m, Target Borehole Depth	
2200						
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						

Notes:	EOB = End Of Borehole	UTP = Unable To Penetrate	UTE = Unable To Extract
1	Weather leading up to testing was: Fine		

- 2 Ground water was at 1800mm below ground level during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Greenhill Park Stage 16	171738-AREA-LUK-S16-		
and Test Repo	01		
Tested by	Date	Sheet No.	Test Site
Jessel Ladwa	23/06/2021	4	453

		No of		S	cala	Pen	etrome	ter		
Depth (mm)	Undrained Shear (kPa)	blows			(Blo	ows/	100mm)	Soil Description	Water Table
	onour (m u)	/100mm	0	2 4	4 6	8	10 12	14 16		1 4 10 10
100					i	•		Result	Topsoil	
200								Good	Toposii	
300	>205/							Ground		
400									ENGINEERED FILL: Clayey SILT, brown,	
500									streaked white, very stiff	
600	>205/				i				ENGINEERED FILL: Clayey SILT, brownish	
700									orange, streaked white	
800										
900	>205/				إ					
1000				1					Clayey SILT, streaked white, greyish brown, very stiff	
1100				<u> </u>					outly on a real name, ground name, respectively	
1200	186/67									
1300										
1400										
1500										
1600	>205/								Clayey SILT, grey, streaked orange, very stiff	
1700				ļ						
1800										
1900	179/51			1						
2000									EOB @ 2m	
2100				1						
2200				-						
2300			4	+						
2400			4	-		_				
2500			4							
2600			4							
2700			4	-						
2800			$oldsymbol{\perp}$	+						
2900			4	1						
3000			4							
3100			4	╁						
3200			4							
3300			4							
3400			4	-						
3500										

- 1 Weather leading up to test was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Subdivision Test & Repo Stage 16, Greenhill Par	171738-AREA-LUK-S16- 01		
		Sheet No.	Test Site
AK	23/06/2021	5	454

Depth	Undrained	No of blows	Scala Penetromete (Blows/100mm)	Soil Description	Water
(mm)	Shear (kPa)	/100mm	0 2 4 6 8 10 12 14	4 16	Table
100			Go	ood ound TOPSOIL.	
200				round TOPSOIL.	
300	>205/				
400				ENGINEERED FILL: CLAY SILT with traces of clay and	
500	186/47			fine sand, light grey mottled orange, very stiff, low	
600				moisture, low plasticity, moderately sensitive.	
700	>205/				
800					
900	>205/				
1000				Silty CLAV with traces of miss and fine numiceaus	
1100	>205/			Silty CLAY with traces of mica and fine pumiceous material, orange brown streaked light brown, very stiff to	
1200				hard, low moisture, high plasticity, moderately sensitive.	
1300	127/36			mara, for molecules, mgn placeary, measurery constants.	
1400					
1500					
1600	130/36				
1700					
1800					
1900	127/33				
2000					
2100				EOB at 2.0m, Target Borehole Depth	
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

Notes: EOB = End Of Borehole	UTP = Unable To Penetrate	UTE = Unable To Extract
------------------------------	---------------------------	-------------------------

- 1 Weather leading up to testing was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Greenhill Park Stage 16	171738-AREA-LUK-S16-		
and Test Repo	01		
Tested by	Date	Sheet No.	Test Site
,			

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	(B	a Penetrometer lows/100mm) 6 8 10 12 14 16	Soil Description	Water Table
100				Good		
200				Ground	Topsoil	
300	>205/			Result		
400					ENGINEERED FILL: Clayey SILT,	
500					brownish orange	
600	>205/					
700						
800					ENCINEEDED EILL, Clavery CILT, greeviels brevier	
900	>205/				ENGINEERED FILL: Clayey SILT, greyish brown, streaked orange	
1000			,,,		on our or arrigo	
1100						
1200	>205/					
1300						
1400						
1500					Clayey SILT, greyish brown, streaked orange, little moist	
1600	>205/				oldy of City, groyion blown, strouted ordings, ittle molet	
1700						
1800						
1900	>205/					
2000					EOB @ 2m	
2100						
2200						
2300						
2400					1	
2500 2600						
2700					1	
2800					1	
2900					1	
3000					1	
3100						
3200						
3300						
3400						
3500						

- 1 Weather leading up to test was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.			
_	171738-AREA-LUK-S16-			
Stage 16, Greenhill Par	k, Hamilton	01		
Tested by	Date	Sheet No.	Test Site	
AK	23/06/2021	7	456	

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm		Penetrometer ows/100mm) 6 8 10 12 14 16	Soil Description	Water Table
100				Good	TOPSOIL.	
200	>205/			ground Result	Silty CLAY with some sand, brown, hard, low moist.	
300				rtodit	FNOINEEDED EILL OLAY OUT with traces of fine	
400	146/66				ENGINEERED FILL: CLAY SILT with traces of fine sand and fine pumiceous material, orange brown, very	
500					stiff, low moisture, high plasticity, moderately sensitive.	
600					can, ion molecule, mgr placedary, medicatory constants.	
700	124/39				ENGINEERED FILL: SILT with traces of clay and fine	
800					sand, light grey mottled orange, very stiff, low moisture,	
900					low plasticity, moderately sensitive.	
1000	202/72		ممر		μ, γ	
1100						
1200					ENGINEERED FILL: Silty CLAY with traces of fine	
1300	186/79				pumiceous and carbonaceous material, orange brown	
1400					streaked pink, very stiff, low moisture, high plasticity,	
1500	>205/				moderately sensitive.	
1600					SILT with some clay and traces of fine pumiceous	
1700	96/12				material, grey mottled yellow, stiff, moist, low plasticity,	
1800					sensitive.	
1900	00//0				SILT with some fine sand, light grey, stiff, moist, low	
2000	90/12				plasticity, sensitive.	
2100					EOB at 2.0m, Target Borehole Depth	
2200						
2300						
2400						
2500						
2600 2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						

Notes:	FOB = Fnd Of Borehole	UTP = Unable To Penetrate	UTF = Unable To Extract

- 1 Weather leading up to testing was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.						
Subdivision Test & Repo	171738-AREA-LUK-S16-						
Stage 16, Greenhill Par	Stage 16, Greenhill Park, Hamilton						
Tested by	Date	Sheet No.	Test Site				

		No of		Ç.	وادم	Poi	netron	neter		
Depth	Undrained	blows	Scala Penetrometer (Blows/100mm)			Soil Description	Water			
(mm)	Shear (kPa)	/100mm	0	2 4				2 14 16		Table
100								Good		
200								Ground Result	TOPSOIL.	
300								. 10001	TOI SOIL.	
400										
500	111/47				-					
600									SILT with some clay, yellow cream brown, very stiff, low	
700									moisture, high plasticity, moderately sensitive.	
800	107/36									
900									900mm: Becoming light creamy brown.	
1000				1	/					
1100	114/42									
1200										
1300									1300mm: Becoming yellow cream.	
1400	156/53									
1500										
1600									SILT with minor clay and traces of mica, light grey	
1700	>205/								speckled black, hard, low moisture, low plasticity.	
1800										
1900	>205/								Fine to coarse sand with some silt and carbonaceous.	
2000				İ					CLAY SILT, reddish brown, very stiff, low moisture.	
2100									EOB at 2.0m, Target Borehole Depth	
2200										
2300										
2400										
2500										
2600										
2700										
2800										
2900										
3000										
3100										
3200										
3300										
3400										
3500										

Notes:	FOB = Fnd Of Borehole	UTP = Unable To Penetrate	UTF = Unable To Extract

- 1 Weather leading up to testing was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Greenhill Park Stage 16	171738-AREA-LUK-S16-		
and Test Repo	01		
Tested by	Date	Sheet No.	Test Site
Jessel Ladwa	23/06/2021	9	458

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	0	(E	Blows	enetrometer s/100mm) 8 10 12 14 16	Soil Description	Water Table
100					니	Good Ground	Topsoil	
200							. opeon	
300	182/84						ENGINEERED FILL: CLAY, some silt, brown,	
400					1		- ,	
500	20-1		Н		-		0.4%	
600	>205/						CLAY, some silt, streaked orange	
700			4					
800	. 005/				<u> </u>			
900	>205/		-	/	_			
1000			H	-1			Clayey SILT, reddish brown, streaked orange	
1100	>20E/		+					
1200 1300	>205/							
1400			H					
1500	167/44		+					
1600	107/44							
1700			H				Clayey SILT, reddish brown, streaked white, moist	
1800								
1900	184/48		H					
2000	10 17 10						EOB @ 2m	
2100			Т					
2200								
2300			T					
2400			Т					
2500			T					
2600								
2700								
2800								
2900								
3000								
3100								
3200								
3300								
3400			Ц					
3500								

- 1 Weather leading up to test was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Greenhill Park Stage 16	171738-AREA-LUK-S16-		
and Test Repo	01		
Tested by	Date	Sheet No.	Test Site

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm		Penetrometer ows/100mm) 6 8 10 12 14 16	Soil Description	Water Table
100				Good		
200				Ground	Topsoil	
300	>205/		İ	Results		
400					ENGINEERED FILL: CLAY some silt, brown	
500						
600	>205/				Clause Oll T. hasses attacked areas	
700					Clayey SILT, brown, streaked orange	
800						
900	181/72				Clavey Cll T. brown atrocked arongo and white	
1000	_		100		Clayey SILT, brown, streaked orange and white	
1100						
1200	124/50					
1300						
1400						
1500	113/36				Clayey SILT, reddish brown, streaked greyish white, moist	
1600					olayey ole i, reduish brown, streaked greyish white, moist	
1700			i			
1800						
1900	107/52					
2000					EOB @ 2m	
2100						
2200						
2300						
2400						
2500						
2600						
2700 2800						
2900 3000						
3100			1			
3200						
3300						
3400						
3500						

- 1 Weather leading up to test was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Greenhill Park Stage 16	171738-AREA-LUK-S16-		
and Test Repo	01		
Tested by	Date	Sheet No.	Test Site
Jessel Ladwa	23/06/2021	11	460

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	(BI	a Penetrometer ows/100mm) 6 8 10 12 14 16	Soil Description	Water Table
100				Good	Topsoil	
200				ground Result	Topson	
300	172/60			Hoodit		
400					ENGINEERED FILL: CLAY, some silt, brown, little moist	
500						
600	184/69					
700					CLAY, some silt, streaked white and orange	
800						
900	179/42					
1000			,,,			
1100					CLAY, some silt, reddish brown, streaked white, moist	
1200	>205/					
1300						
1400						
1500	149/39				Clayey SILT, reddish brown, moist	
1600					olayey olar, roddion brown, molec	
1700						
1800					Clayey, SILT, reddish brown, moist, streaked greyish	
1900	>205/				white	
2000					EOB @ 2m	
2100						
2200						
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000			1			
3100 3200						
3300						
3400						
3500						

- 1 Weather leading up to test was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.				
Greenhill Park Stage 16	171738-AREA-LUK-S16-				
and Test Repo	and Test Report				
Tested by	Date	Sheet No.	Test Site		
Jessel Ladwa	23/06/2021	12	461		

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 1	Soil Description	Water Table
100			Resul	Topsoil	
200			Good		
300	>205/		Groun	1	
400				ENGINEERED FILL: CLAY, some silt, greyish	
500				brown, little moist	
600	154/22				
700				_	
800					
900	>205/			CLAY, some silt, greyish brown, streaked orange, moist	
1000				_	
1100					
1200	185/48			_	
1300				Clayey SILT, greyish brown, wet	
1400	005/			_	
1500	>205/				
1600				_	
1700				Clayey SILT, greyish brown, streaked oange, wet	
1800 1900	129/38			_	
2000	129/30			EOB @ 2m	
2100				LOB @ Ziii	
2200				- 	
2300				- 	
2400				-	
2500				-	
2600				- 	
2700				_	
2800				_	
2900				1	
3000				1	
3100				7	
3200				7	
3300				7	
3400				7	
3500					

- 1 Weather leading up to test was: Fine
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Project Name	Job Ref.		
Greenhill Park Stage 16	171738-AREA-LUK-S16-		
and Test Repo	01		
Tested by	Date	Sheet No.	Test Site

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	(Blows/100mm)	Soil Description	Water Table
100			Good Ground	Topsoil	
200				Тороон	
300	122/38				
400				ENGINEERED FILL: CLAY, some silt, brown, little moist	
500					
600	146/62				
700					
800				CLAY, some silt, light brown, streaked white, wet	
900	137/33			on the same only light proving an oakou miles, wet	
1000					
1100					
1200	107/26				
1300				Clayey SILT, greyish brown, wet	
1400					
1500	139/35				
1600					
1700				Clayey SILT, greyish brown, streaked orange, wet	
1800				, , , , , , , , , , , , , , , , , , ,	
1900	162/32				
2000				EOB @ 2m	
2100					
2200					
2300					
2400					
2500					
2600					
2700					
2800 2900					
3000					
3100					
3200					
3300					
3400					
3500					

- 1 Weather leading up to test was: Fine
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- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job F	Ref.	
Subdivision Test & Repo Stage 16, Greenhill Par	171738-AREA-LUK-S16-		
Stage 16, Greenniii Par	k, namilion	UI	
Tooks all by	D . 1 .	01 1 1 1	
Tested by	Date	Sheet No.	Test Site

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	(BI	a Penetrometer ows/100mm) 6 8 10 12 14 16	Soil Description	Water Table
100				Good	TOPSOIL.	
200	210+			Ground Result	ENGINEERED FILL: Silt CLAY with traces of fine	
300				rtosuit	pumiceous material, brown, hard, low moisture, high	
400					plasticity.	
500	210+				SILT with minor clay and traces of fine sand, mica and	
600					pumiceous material, light grey streaked pink, hard, low	
700					moisture, low plasticity.	
800	210+					
900						
1000			م م			
1100	210+					
1200						
1300	210+					
1400					1400mm: Traces of carbonaceous material.	
1500						
1600	210+					
1700						
1800					1800mm: Becoming moist.	
1900	143/20				1900mm: Becoming very stiff.	
2000						
2100	114/20				EOB at 2.0m, Target Borehole Depth	
2200						
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						

Notes:	EOB = End Of Borehole	UTP = Unable To Penetrate	UTE = Unable To Extract
1	Weather leading up to testing was: Fine		

- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
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- Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Subdivision Test & Repo Stage 16, Greenhill Par	171738-AREA-LUK-S16- 01		
Tested by	Date	Sheet No.	Test Site
AK	1/06/2021	15	464

_		No of	Scala	Penetrometer		
Depth (mm)	Undrained Shear (kPa)	blows /100mm	(Blo	ows/100mm)	Soil Description	Water Table
100				Good	TOPSOIL.	
200	210+			Ground Results	ENGINEERED FILL: Silty CLAY with traces of fine	
300				Results	pumiceous material, brown, hard, low moisture.	
400					SILT with some of clay and fine sand and pumiceous	
500	210+				material, creamy white streaked pink, hard, low moisture,	
600					low plasticity.	
700						
800	210+					
900						
1000					1000mm: Becoming moist.	
1100	202/28				1100mm: Becoming sensitive.	
1200						
1300					1300mm: Becoming SILT.	
1400	159/24				1400mm: Becoming very stiff.	
1500					1500mm: Becoming very moist.	
1600						
1700	140/24		i			
1800						
1900	172/24					
2000	156/20					
2100					EOB at 2.0m, Target Borehole Depth	
2200						
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						

Notes:	EOB = End Of Borehole	UTP = Unable To Penetrate	UTE = Unable To Extract
1	Weather leading up to testing was: Fine		

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Project Name	Job Ref.		
Subdivision Test & Repo		171738-ARE	A-LUK-S16-
Stage 16, Greenhill Par	k, Hamilton	U1	
Tested by	Date	Sheet No.	Test Site

Danish	Handrette - 1	No of	Scala	Penetrometer		Wet
Depth (mm)	Undrained Shear (kPa)	blows /100mm	(Bl d	ows/100mm) 6 8 10 12 14 16	Soil Description	Water Table
100				Good	TOPSOIL.	
200	210+			ground Result	ENGINEERED FILL: Silty CLAY with traces of mica and	
300				Result	fine pumiceous material, brown streaked creamy white,	
400					very stiff to hard, low moisture, high plasticity,	
500	199/63				moderately sensitive.	
600					011 7 111 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
700					SILT with traces of clay and fine sand, creamy white	
800	202/28				mottled orange and brown, very stiff to hard, low moisture, low plasticity, extra sensitive.	
900					low plasticity, extra sensitive.	
1000			,,,,		1000mm: Becoming moist.	
1100	202/24				1100mm: Becoming low sample retention.	
1200						
1300						
1400	199/28					
1500						
1600					1600mm: Becoming very moist.	
1700	172/24					
1800						
1900						
2000	156/20					
2100					EOB at 2.0m, Target Borehole Depth	
2200			i			
2300						
2400						
2500			!			
2600						
2700						
2800						
2900						
3000			!			
3100						
3200						
3300						
3400						
3500						

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	1	Weather leading up to testing was: Fine		

- Ground water was not encountered during testing
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- Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.			
_	171738-AREA-LUK-S16-			
Stage 16, Greenhill Par	k, Hamilton	01		
Tested by	Date	Sheet No.	Test Site	
AK	12/06/2021	17	466	

Depth	Undrained	No of				Penetrometer ows/100mm)	Soil Decariation	Water
(mm)	Shear (kPa)	blows /100mm	0	2 4	•	•	Soil Description	Table
100						Good	TOPSOIL.	
200						Ground Result	TOT GOIL.	
300	156/39						ENCINEEDED FILL: SILT with some clay and traces of	
400					i		ENGINEERED FILL: SILT with some clay and traces of fine pumiceous material, creamy light brown, very stiff,	
500	161/36						low moisture, high plasticity, moderately sensitive.	
600							-on motions, mg. process, motions of constants	
700							SILT with traces of clay, fine sand and pumiceous	
800	>205/50						material, interbedded pink and creamy white, hard, low	
900							moisture, low plasticity, moderately sensitive.	
1000				1				
1100	>205/42						1100mm: Becoming light brown.	
1200							1200mm: Becoming moist to very moist.	
1300							1300mm: Low sample retention.	
1400	96/20						1400mm: Becoming stiff.	
1500								
1600							<u> </u>	
1700	124/29						1700mm: Becoming very stiff.	
1800							_	
1900	143/31			ļļ.			_	
2000				1				
2100							EOB at 2.0m, Target Borehole Depth	
2200				1				
2300			\perp	1			4	
2400			4	4				
2500			\perp	+			4	
2600			4	-				
2700			\bot	+				
2800				-				
2900			\perp	-			4	
3000			\perp	-			4	
3100			\perp	1			4	
3200			\perp	1			4	
3300			\perp	-				
3400				-			4	
3500								

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Project Name	Job Ref.		
Subdivision Test & Repo Stage 16, Greenhill Par		171738-ARE	A-LUK-S16-
Tested by		Sheet No.	Test Site
AK	12/06/2021	18	467

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	(Bl	Nenetrometer ows/100mm) 8 8 10 12 14 16	Soil Description	Water Table
100				Good		
200				Ground Results	TOPSOIL.	
300						
400	167/47				ENCINEEDED EILL OILT with some also asserts light	
500					ENGINEERED FILL: SILT with some clay, creamy light brown mottled orange, very stiff, low moisture, high	
600	124/33				plasticity, moderately sensitive.	
700					plasticity, inductatory constitue.	
800	146/47					
900					SILT with some fine sand traces of carbonaceous material.	
1000					SILT with some clay, light brown mottled orange, very	
1100	146/36				stiff, low moisture, high plasticity, moderately sensitive.	
1200					SILT with traces of clay and fine pumiceous material,	
1300	>205/81				creamy white mottled orange, hard, moist, high plasticity.	
1400					1400mm: Becoming light creamy orange brown.	
1500	84/24				1500mm: Becoming stiff, moist.	
1600						
1700	96/20				1700mm: Low sample retention.	
1800						
1900	96/24					
2000						
2100					EOB at 2.0m, Target Borehole Depth	
2200						
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						

Notes: EOB = End Of Boreho	le UTP = Unable To Penetrate	UTE = Unable To Extract
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- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name		Job F	Ref.
Subdivision Test & Repo	171738-ARE	A-LUK-S16-	
Stage 16, Greenhill Par	01		
Tested by	Date	Sheet No.	Test Site
AK	12/06/2021	19	468

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	0		(BI	ows/	etron 100m	m)		Soil Description	Water Table
100						-		- Go		TOPSOIL.	
200					i			grou	und sult	TOPSOIL.	
300	167/50							110	Juit	ENGINEERED FILL: SILT with some clay and traces of	
400										carbonaceous material and mica, light brown streaked	
500	159/81				i					light grey mottled orange, very stiff, low moisture, high	
600										plasticity, moderately sensitive.	
700											
800	>205/81										
900										CLAY SILT with minor carbonaceous material and traces	
1000	>205/81									of mica and fine sands, dark reddish brown speckled	
1100										black, hard, low moisture, high plasticity, moderately	
1200										sensitive.	
1300	>205/69										
1400				ļ.						SILT with some clay and traces of fine pumiceous	
1500	>205/									material, creamy light brown mottled red, very stiff to hard,	
1600				ļ						low moisture, high plasticity.	
1700											
1800	186/50										
1900	4-0/-0										
2000	159/50			H						500 100 T 10 11 D 11	
2100										EOB at 2.0m, Target Borehole Depth	
2200				-							
2300											
2400			\blacksquare								
2500 2600			\blacksquare	i							
2700			+								
2800				H							
2900			+	+			+				
3000			+				+				
3100			\vdash	+							
3200			+								
3300				+							
3400											
3500											

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Project Name		Job F	Ref.			
Subdivision Test & Repo	171738-AREA-LUK-S16-					
Stage 16, Greenhill Par	Stage 16, Greenhill Park, Hamilton					
Tested by	Date	Sheet No.	Test Site			
AK	12/06/2021	20	469			

Depth	Undrained	No of		,			ene vs/10			er	Sail Description	Water
(mm)	Shear (kPa)	blows /100mm	0	2	4	6				4 16	Soil Description	Table
100			7				_	_	- R	esult		
200			Ī						- G	ood	TOPSOIL.	
300						П				ound		
400	127/50		1								ENGINEERED FILL: SILT with some clay and	
500											traces of mica and carbonaceous material, creamy	
600											light brown streaked white, stiff to very stiff, low	
700	96/36										moisture, high plasticity, moderately sensitive.	
800												
900	127/47										900mm: Orange mottling.	
1000			╛		100							
1100	134/53										CLAY SILT with traces of mica and fine pumiceous	
1200											material, creamy light brown, very stiff, low moisture, high	
1300											plasticity, moderately sensitive.	
1400	183/66										, ,	
1500												
1600												
1700	>205/											
1800											SILT with some clay and traces of fine pumiceous	
1900											material, creamy white mottled orange, hard, low	
2000	>205/		4								moisture, high plasticity.	
2100			4								EOB at 2.0m, Target Borehole Depth	
2200							-					
2300			4									
2400			4	+			+				-	
2500			4				+				-	
2600			4	+		+	+				-	
2700 2800			+	+								
			+			+	+				-	
2900 3000			+	-								
3100			+	-		+	-				1	
3200			+	+		+	+				1	
3300			+	+							1	
3400			+								1	
3500			+	+	\vdash	+	+	H			1	
5500												

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Project Name		Job Ref.	
Subdivision Test & Repo	171738-AREA-LUK-S16-		
Stage 16, Greenhill Par	01		
Tested by	Date	Sheet No.	Test Site
AK	12/06/2021	21	470

100	Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	(Blows/100mm)	Soil Description	Water Table
Sill Sill	100				TOPSOIL.	
300 400 193/79	200	167/79			ENOINEEDED EILL OL. CHET 'IL Love of city	
400 193/79	300			rtosun		
S00	400	193/79				
600	500					
800 900 1000 202/66 1000mm: Becoming hard. 1100mm: Streaked red.	600					
1000 202/66 1000mm: Becoming hard. 1100mm: Streaked red. 1100mm: Str	700	183/63				
1000 202/66	800					
1100	900					
1200 >205/	1000	202/66			_	
1300 1400 150/53 150/53 150/53 1700 114/24 1800 114/24 1800mm: Becoming moist. 1900	1100			1	1100mm: Streaked red.	
1300 1400	1200	>205/				
1500 150/53						
1500 150/35 150					SILT with some clay and traces of mica and fine	
1700		150/53				
1800 114/24 1800mm: Becoming moist. 1900 1900mm: Low sample retention. 2000 EOB at 2.0m, Target Borehole Depth 2200 2300 2400 EOB at 2.0m, Target Borehole Depth 2500 2600 2700 2800 2900 3000 3100 3100					• • • • • • • • • • • • • • • • • • • •	
1900						
2000		114/24		<u> </u>	_	
2100 EOB at 2.0m, Target Borehole Depth 2200 EOB at 2.0m, Target Borehole Depth 2300 EOB at 2.0m, Target Borehole Depth 2400 EOB at 2.0m, Target Borehole Depth 2400 EOB at 2.0m, Target Borehole Depth 2500 EOB at 2.0m, Target Borehole Depth					1900mm: Low sample retention.	
2100						
2300 2400 2500 2600 2700 2800 2900 3000 3100					EOB at 2.0m, Target Borehole Depth	
2400 2500 2600 2700 2800 2900 3000 3100						
2500 2600 2700 2800 2900 3000 3100						
2600 2700 2800 2900 3000 3100						
2600 2700 2800 2900 3000 3100						
2800 2900 3000 3100						
2900 3000 3100						
3000 3100						
3100						
3100						
1 3200 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						
3300						
3400 3500						

Notes: EOB = End Of Boreho	le UTP = Unable To Penetrate	UTE = Unable To Extract
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- 1 Weather leading up to testing was: Fine
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Project Name		Job Ref.	
Subdivision Test & Repo	171738-AREA-LUK-S16-		
Stage 16, Greenhill Par	01		
Tested by	Date	Sheet No.	Test Site

Depth (mm)	Undrained Shear (kPa)	No of blows	Scala Penetro (Blows/100r	mm)	Soil Description	Water Table
(111111)	Sileai (KFa)	/100mm	0 2 4 6 8 10	12 14 16		Table
100				Good	TOPSOIL.	
200	172/50			Ground Result	ENGINEERED FILL: Silty CLAY with traces of mica and fine	
300				Result	pumiceous material, brown streaked creamy white, very stiff,	
400	161/53				low moisture, high plasticity, moderately sensitive.	
500					ENGINEERED FILL: Clayey SILT with traces of mica	
600					and fine pumiceous material, yellow brown streaked red	
700	205/53				and white, hard, low moisture, high plasticity,	
800					moderately sensitive.	
900					·	
1000	>205/81		100			
1100					SILT with some clay and traces of fine pumiceous	
1200	205/66				material, light brown mottled orange, very stiff to hard, low	
1300					moisture, high plasticity, moderately sensitive.	
1400					5 to 1, 9 p to 1 g,	
1500	170/50					
1600						
1700						
1800	159/50					
1900						
2000	146/36					
2100					EOB at 2.0m, Target Borehole Depth	
2200						
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						

Notes: EOB = End Of Boreho	le UTP = Unable To Penetrate	UTE = Unable To Extract
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Project Name	Job Ref.			
Subdivision Test & Repo	171738-AREA-LUK-S16-			
Stage 16, Greenhill Par	k, Hamilton	01		
Tested by	Date	Sheet No.	Test Site	
. ootou by	Date	Check No.	TOOL OILO	

Depth	Undrained	No of			a Penetro			Water
(mm)	Shear (kPa)	blows /100mm	0		lows/100 6 8 10	mm) 12 14 16	Soil Description	Table
100						Good	TOPSOIL.	
200				ļ		Ground Result	TOT GOIL.	
300	161/39						Silty CLAY with traces of fine sand, brown mottled	
400							orange, very stiff, low moisture, high plasticity, moderately	
500							sensitive.	
600	143/39							
700							Clayey SILT with traces of mica, interbedded white	
800							pinkish brown, very stiff, low moisture, low plasticity,	
900	143/36						moderately sensitive.	
1000				1				
1100								
1200	124/36							
1300								
1400								
1500	127/24						1500mm: Becoming sensitive.	
1600								
1700							CII T with games alow interhedded wink white and brown	
1800	117/31						 SILT with some clay, interbedded pink white and brown, very stiff, low moisture to moist, low plasticity, sensitive. 	
1900							very sun, low moisture to moist, low plasticity, sensitive.	
2000								
2100							EOB at 2.0m, Target Borehole Depth	
2200								
2300				i				
2400								
2500								
2600]	
2700]	
2800]	
2900]	
3000							1	
3100							1	
3200			T				1	
3300							1	
3400			T				1	
3500							1	

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Project Name	Job Ref.		
Subdivision Test & Repo Stage 16, Greenhill Par	171738-AREA-LUK-S16- 01		
		Sheet No.	Test Site

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	(Blows/100mm)	Soil Description	Water Table
100			Good		
200			Ground Results	TOPSOIL.	
300					
400					
500	183/53			Silty CLAY with some mica, creamy white, very stiff, low	
600				moisture, high plasticity, moderately sensitive.	
700				moletare, riight placeatry, moderatory contains.	
800	210+			SILT with some fine sands and traces of clay, creamy	
900				light brown, hard, low moisture, low plasticity.	
1000				CLAY SILT with traces of mica and carbonaceous	
1100	199/50			material, dark brown, very stiff, low moisture, high	
1200				plasticity, moderately sensitive.	
1300	172/60			Silty CLAY with traces of mica and fine sand and	
1400				pumiceous material, creamy light brown, very stiff, low	
1500				moisture, high plasticity, moderately sensitive.	
1600	143/47				
1700					
1800					
1900	161/50				
2000					
2100	111/39			EOB at 2.0m, Target Borehole Depth	
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

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Project Name	Job Ref.			
Subdivision Test & Repo	171738-AREA-LUK-S16-			
Stage 16, Greenhill Par	k, Hamilton	01		
Tested by	Date	Sheet No.	Test Site	
resieu by	Date	Sheet No.	Test Site	

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	(Ble	Penetrometer ows/100mm) 6 8 10 12 14 16	Soil Description	Water Table
100				Good ground	TOPSOIL.	
200				Result		
300	140/63				Silty CLAY with traces of mica and fine pumiceous	
400					material, light brown mottled pink, very stiff, low moisture,	
500					high plasticity, moderately sensitive.	
600	114/45					
700						
800	100/00					
900	186/63		,			
1000			1			
1100	00/00				21.11.20.7	
1200	96/28				CLAY SILT, white mottled pink and yellow, stiff to very	
1300					stiff, low moisture to moist, high plasticity, moderately sensitive.	
1400	107/22				Schollive.	
1500 1600	127/33				1600mm; Somo vallow mottling	
1700					1600mm: Some yellow mottling.	
1800	167/60		+			
1900	107700					
2000						
2100	170/69				EOB at 2.0m, Target Borehole Depth	
2200	110/00					
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400	_					
3500						

Notes:	EOB = End Of Borehole	UTP = Unable To Penetrate	UTE = Unable To Extract
1	Weather leading up to testing was: Fine		

- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.				
=	171738-AREA-LUK-S16-				
Stage 16, Greenhill Par	Stage 16, Greenhill Park, Hamilton				
Tested by	Date	Sheet No.	Test Site		
AK	20/05/2021	26	475		

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm			Pene	l00mi		16	Soil Description	Water Table
100					-		Resu	lt		
200					_		- Good	,	TOPSOIL.	
300							Grour			
400	210+								CLAY SILT with traces of mica and carbonaceous	
500									material and fine pumiceous material, dark brown	
600									speckled black, hard, low moisture, high plasticity.	
700	210+									
800										
900				j						
1000	210+			, ,					Clayey SILT with traces of mica and fine pumiceous	
1100									material, creamy light brown, hard, low moisture, high	
1200	202/79								plasticity, moderately sensitive.	
1300										
1400										
1500	107/33									
1600									SILT with some clay, pink brown streaked white, very stiff,	
1700									moist to very moist, low plasticity, moderately sensitive.	
1800	172/53									
1900										
2000									500 100 T 10 11 D 11	
2100									EOB at 2.0m, Target Borehole Depth	
2200										
2300										
2400										
2500										
2600										
2700										
2800				+		+				
2900 3000				+		+				
3100			+ +	+		+				
3200				+		+				
3300						+				
3400										
3500						+				

Notes:	FOB = Fnd Of Borehole	UTP = Unable To Penetrate	UTF = Unable To Extract

- 1 Weather leading up to testing was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name		Job Ref.			
Subdivision Test & Repo	171738-AREA-LUK-S16-				
Stage 16, Greenhill Par	Stage 16, Greenhill Park, Hamilton				
Tested by	Date	Sheet No.	Test Site		

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm		la Penetror Blows/100m		Soil Description	Water Table
100					Good Ground	TOPSOIL.	
200					Result	TOT COIL.	
300	210+					CLAY with some silt, dark brown, hard, low moisture, high	
400						plasticity.	
500						p.a.a.v.y.	
600	210+						
700						Silty CLAY with traces of fine pumiceous material and	
800						carbonaceous material, very stiff to hard, low moisture,	
900	210+					high plasticity.	
1000			1			4400 cm. Borondon dell'oli lorre	
1100	040					1100mm: Becoming pinkish brown.	
1200	210+						
1300 1400							
1500	210+						
1600	210+						
1700						CLAY SILT with traces of mica and carbonaceous	
1800	210+					material, white mottled pink and orange, very stiff to hard,	
1900	210.					low moisture, high plasticity.	
2000						, , ,	
2100						EOB at 2.0m, Target Borehole Depth	
2200							
2300							
2400							
2500							
2600							
2700							
2800							
2900							
3000							
3100							
3200							
3300							
3400							
3500							

Notes:	EOB = End Of Borehole	UTP = Unable To Penetrate	UTE = Unable To Extract

- 1 Weather leading up to testing was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name		Job Ref.		
Subdivision Test & Repo	171738-AREA-LUK-S16-			
Stage 16, Greenhill Par	k, Hamilton	01		
Tested by	Date	Sheet No.	Test Site	

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	0 :		(Blo	ws/1	etron 100m 10 1	m)		Soil Description	Water Table
100						-			bod		
200									ound	TOPSOIL.	
300						•		– Re	esult		
400	186/50					_	Т			OLAY OUT TO LEE	
500					i					CLAY SILT, light brown mottled orange, very stiff, low moisture, high plasticity, moderately sensitive.	
600										moisture, night plasticity, moderately sensitive.	
700	180/53										
800											
900											
1000	210+			1						Clayey SILT with traces of fine pumiceous material,	
1100										pinkish light brown mottled orange, hard, low moisture,	
1200										high plasticity.	
1300	210+										
1400										SILT with some fine sand and traces of clay, Interbedded	
1500										creamy white and light brown, very stiff, low moisture,	
1600	146/36									high plasticity, moderately sensitive.	
1700				li							
1800	140/39										
1900											
2000											
2100	153/39									EOB at 2.0m, Target Borehole Depth	
2200											
2300											
2400				Li.							
2500											
2600						_					
2700			_								
2800			_	H		\perp	-				
2900			_			_					
3000			_			\perp	-				
3100			_			\perp	-				
3200			_			\perp	-				
3300			_			_					
3400			_			-					
3500											

Notes:	FOB = Fnd Of Borehole	UTP = Unable To Penetrate	UTF = Unable To Extract

- 1 Weather leading up to testing was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name		Job F	Ref.	
Subdivision Test & Repo	171738-AREA-LUK-S16-			
Stage 16, Greenhill Par	k, Hamilton	U 1		
Tested by	Date	Sheet No.	Test Site	
, , , , , , , , , , , , , , , , , , ,				

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	(BI	a Penetrometer ows/100mm) 6 8 10 12 14 16	Soil Description	Water Table
100				Good		
200				Ground Result	TOPSOIL.	
300				. 1000		
400	159/63				ENGINEERED FILL: CLAY with some silt and traces	
500					of mica and fine pumiceous material, light brown	
600					streaked yellow, very stiff, low moisture, high plasticity,	
700	107/36				moderately sensitive.	
800					·	
900						
1000	114/39				Silty CLAY with traces of mica, light brown mottled yellow,	
1100					very stiff, low moisture, high plasticity, moderately	
1200					sensitive.	
1300	104/36					
1400						
1500						
1600	111/42					
1700						
1800					1800mm: Becoming moist to very moist.	
1900	104/42					
2000						
2100					EOB at 2.0m, Target Borehole Depth	
2200						
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						

Notes:	EOB = End Of Borehole	UTP = Unable To Penetrate	UTE = Unable To Extract
1	Moather leading up to tecting was: Fine		

- 1 Weather leading up to testing was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job F	Ref.	
Subdivision Test & Repo Stage 16, Greenhill Par	171738-AREA-LUK-S16- 01		
Tested by	Date	Sheet No.	Test Site
AK	20/05/2021	30	479

Depth (mm)	Undrained Shear (kPa)	No of blows	0 2		Blov	enetrometer vs/100mm) 8 10 12 14 16	Soil Description	Water Table
	` '	/100mm	0 2	. 4	, 			
100					\square	Ground	TOPSOIL.	
200						Results		
300	UTP				l		ENGINEERED FILL: CLAY with some silt and	
400							traces of mica, yellow brown, hard, low moisture,	
500	0.440.4						high plasticity.	
600	84/24						600mm: Moist, stiff.	
700								
800							Silty CLAY with traces of mica, light brown mottled yellow,	
900	146/66				<u> </u>		very stiff, low moisture, high plasticity, moderately	
1000				1			sensitive.	
1100								
1200	111/39							
1300								
1400				-				
1500	137/66							
1600				-				
1700				-				
1800	130/60							
1900								
2000								
2100				-			EOB at 2.0m, Target Borehole Depth	
2200				!				
2300								
2400								
2500								
2600				-			_	
2700				-			_	
2800							_	
2900								
3000								
3100								
3200							_	
3300								
3400								
3500								

Notes:	EOB = End Of Borehole	UTP = Unable To Penetrate	UTE = Unable To Extract
1	Weather leading up to testing was: Fine		

- 2
- Ground water was not encountered during testing
- Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 3
- 4 Shear Vane records include Re-moulded values where possible
- Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Subdivision Test & Repo Stage 16, Greenhill Par	171738-AREA-LUK-S16- 01		
Tested by	Sheet No.	Test Site	
AK	20/05/2021	31	480

100 200 210+ 21	Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	(BI	Penetrometer ows/100mm) 6 8 10 12 14 16	Soil Description	Water Table
200 210+						TOPSOIL.	
400		212					
Silty CLAY with some mica and traces of carbonaceous material, light brown motited orange, very stiff, low moisture, high plasticity.		210+					
Silty CLAY with some mica and traces of carbonaceous material, light brown mottled orange, very stiff, low moisture, high plasticity, moderately sensitive.						·	
Tool		150/00					
800		159/00				The state of the s	
900 175/107 1000 1000 1100 1100 1100 1100 1100						• • •	
1000		175/107				molecule, high plasticity, moderatory scholave.	
1100		173/107				CLAV CILT with traces of earhonesceus and numiceous	
1200 159/63						·	
1300		159/63					
1400 1500 172/81 1500 172/81 1600 1600 172/81 1600		100/00				, ,,	
1500 172/81				i			
1600		172/81					
1700						Clavey SILT with traces of pumiceous material, light	
1800 143/50	1700						
2000	1800	143/50				plasticity.	
2100	1900						
2200 2300 2400 2500 2600 2700 2800 2900 3000 3100 3200 3300 3400	2000						
2300 2400 2400 3500 2600 3000 2800 3000 3100 3200 3300 3400	2100					EOB at 2.0m, Target Borehole Depth	
2400	2200						
2500 0	2300						
2600	2400						
2700							
2800							
2900				i i			
3000							
3100 3200 3300 3400				1			
3200 3300 3400				1			
3300 3400							
3400							
3400							
	3400 3500						

Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extra
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- 1 Weather leading up to testing was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Subdivision Test & Repo	171738-AREA-LUK-S16-		
Stage 16, Greenhill Par	01		
Tested by	Choot No	Took Cite	
rested by	Date	Sheet No.	Test Site

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	0	(Bl	a Penetrometer ows/100mm) 6 8 10 12 14 16	Soil Description	Water Table
100			П		Good	7070011	
200					Ground	TOPSOIL.	
300			П		Result	ENGINEERED FILL: Silty CLAY, Interbedded reddish	
400	156/50		П			brown and light brown, very stiff, low moisture, low	
500						plasticity, moderately sensitive.	
600							
700	202/47						
800							
900							
1000	202/53			100			
1100						1100mm: Becoming yellow brown.	
1200							
1300	202/47						
1400						1400mm: Traces of iron staining, yellow orange mottling.	
1500							
1600	210+						
1700							
1800						SILT with traces of clay, white light grey, hard, low	
1900	210+					moisture, low plasticity.	
2000							
2100						EOB at 2.0m, Target Borehole Depth	
2200							
2300			Ц				
2400			Ц				
2500			Н				
2600			Н				
2700 2800			Н				
			H	1			
2900			H				
3000			Н				
3100 3200			H				
			H				
3300 3400			H				
3500			Н				

Notes:	EOB = End Of Borehole	UTP = Unable To Penetrate	UTE = Unable To Extract
1	Weather leading up to testing was: Fine		

- Ground water was not encountered during testing
- Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength) 3
- 4 Shear Vane records include Re-moulded values where possible
- Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.			
Subdivision Test & Repo	171738-AREA-LUK-S16-			
Stage 16, Greenhill Par	k, Hamilton	U 1		
Tested by	Sheet No.	Test Site		
	1			

Depth	Undrained	No of blows		Penetrometer ows/100mm)	Soil Description	Water
(mm)	Shear (kPa)	/100mm	0 2 4 6		Soil Description	Table
100				Good	TOPSOIL.	
200				Ground Results	TOI SOIL.	
300	156/47				ENGINEERED FILL: Silty CLAY, brown, very stiff, low	
400					moisture, high plasticity, moderately sensitive.	
500					molecule, high plasticity, moderatory scholave.	
600	170/50				600mm: Interbedded white and yellow brown.	
700						
800						
900	210+				900mm: Becoming clayey SILT, interbedded yellow	
1000			1		brown.	
1100						
1200	210+				SILT with traces of fine sand, light grey with yellow	
1300					mottling, very stiff to hard, low moisture, low plasticity.	
1400					у, том ду, том на том н	
1500	210+					
1600						
1700						
1800	134/42					
1900					1900mm: Becoming very moist.	
2000						
2100					EOB at 2.0m, Target Borehole Depth	
2200						
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						

Notes:	EOB = End Of Borehole	UTP = Unable To Penetrate	UTE = Unable To Extract

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- 2 Ground water was not encountered during testing
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- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Subdivision Test & Repo Stage 16, Greenhill Par	171738-AREA	A-LUK-S16-	
Tested by	Sheet No.	Test Site	

Depth (mm)	Undrained Shear (kPa)	No of blows		Penetrometer ows/100mm)	Soil Description	Water Table
(mm)	Snear (KPa)	/100mm	0 2 4 6	8 10 12 14 16		Table
100				Good		
200				ground Result	TOPSOIL.	
300				- toosit		
400	161/60				ENGINEERED FILL: Silty CLAY, interbedded white and	
500					brown, very stiff, low moisture, low plasticity,	
600					moderately sensitive.	
700	193/50				and a second control of the second control o	
800					800mm: Traces of mica.	
900			j		900mm: Becoming brown.	
1000	210+		,,'		1000mm: Becoming hard.	
1100						
1200			i		12000mm: Moderate orange mottling.	
1300	210+					
1400						
1500					1500mm: Becoming light brown.	
1600	210+					
1700					SILT with traces of fine sand, light grey with yellow	
1800					mottling, very stiff to hard, low moisture, low plasticity.	
1900	210+				motaling, very sam to mara, low mototale, for placticity.	
2000						
2100					EOB at 2.0m, Target Borehole Depth	
2200						
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						

Notes:	EOB = End Of Borehole	UTP = Unable To Penetrate	UTE = Unable To Extract
1	Moather leading up to testing was: Fine		

- 1 Weather leading up to testing was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Subdivision Test & Repo Stage 16, Greenhill Par	171738-AREA-LUK-S16- 01		
Tested by	Sheet No.	Test Site	
AK	19/05/2021	35	8007-8008

				,		
Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrom (Blows/100mn 0 2 4 6 8 10 12	n)	Soil Description	Water Table
100				Result	TOPSOIL.	
200				Good	TOPSOIL.	
300				Ground	ENGINEERED FILL: Silty CLAY, interbedded white yellow	
400	167/50				and light brown, very stiff, low moisture, high plasticity,	
500					moderately sensitive.	
600						
700	202/47				700mm: Becoming brown.	
800					800mm: Traces of mica.	
900						
1000	114/36					
1100					CLAV CILT with traces of find aged traces of	
1200					CLAY SILT with traces of find sand, traces of rootlets, light grey streaked brown, very stiff to hard,	
1300	210+				low moisture.	
1400					ion moleculo.	
1500						
1600	210+					
1700						
1800						
1900	210+					
2000						
2100					EOB at 2.0m, Target Borehole Depth	
2200						
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						

Notes:	EOB = End Of Borehole	UTP = Unable To Penetrate	UTE = Unable To Extract
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- 1 Weather leading up to testing was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Subdivision Test & Repo Stage 16, Greenhill Park	171738-AREA-LUK-S16- 01		
		Sheet No.	Test Site
AK	19/05/2021	36	8009-8010

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	(BI	Penetrometer ows/100mm) 6 8 10 12 14 16	Soil Description	Water Table
100				Good	TOPSOIL.	
200				Ground Result	TOT SOIL.	
300	210+				ENGINEERED FILL: CLAY SILT, interbedded white	
400					orange and brown, very stiff to hard, low moisture,	
500					high plasticity.	
600	167/79					
700					700mm: Minor orange mottling.	
800					800mm: Traces of mica.	
900	210+					
1000			ممر			
1100					1100mm: Becoming brown.	
1200	210+					
1300					1300mm: Becoming some clay.	
1400					Clayey SILT with traces of mica, white light grey, very	
1500	210+				stiff, low moisture, low plasticity, moderately sensitive.	
1600					oun, 1011 1110101111, 1011 processor, 1111011111111111111111111111111111111	
1700					Silty CLAY, dark brown with some iron staining, hard, low	
1800	210+				moisture, high plasticity.	
1900						
2000						
2100					EOB at 2.0m, Target Borehole Depth	
2200						
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						

Notes:	EOB = End Of Borehole	UTP = Unable To Penetrate	UTE = Unable To Extract

- 1 Weather leading up to testing was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Subdivision Test & Repo	171738-AREA-LUK-S16-		
Stage 16, Greenhill Par	01		
Tested by	Sheet No.	Test Site	

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm		Penetrometer ows/100mm) 8 8 10 12 14 16	Soil Description	Water Table
100				Good	TOPSOIL.	
200				Ground	TOT SOIL.	
300	210+			Result	ENCINEEDED FILL City CLAV interhed add white	
400					ENGINEERED FILL: Silty CLAY, interbedded white light brown and orange brown, very stiff to hard, low	
500					moisture, high plasticity, moderately sensitive.	
600	172/81				mototale, mgm placticity, measiately constave.	
700					700mm: Some orange mottling.	
800					800mm: Becoming brown.	
900	153/69		j			
1000						
1100						
1200	137/36					
1300					Clayey SILT with traces of mica, white light grey, very	
1400			i		stiff, low moisture, low plasticity, moderately sensitive.	
1500	140/47				,,, ,, p, , ,, ,, ,	
1600						
1700						
1800	210+				Silty CLAY, dark brown with some iron staining, hard, low	
1900					moisture, high plasticity.	
2000					500 100 T 10 11 D 11	
2100			!		EOB at 2.0m, Target Borehole Depth	
2200						
2300						
2400						
2500			1			
2600 2700						
2800						
2900			1			
3000						
3100			1			
3200						
3300			+			
3400						
3500						

Notes:	EOB = End Of Borehole	UTP = Unable To Penetrate	UTE = Unable To Extract

- 1 Weather leading up to testing was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Subdivision Test & Repo	171738-AREA-LUK-S16-		
Stage 16, Greenhill Par	01		
Tested by	Sheet No.	Test Site	

		No of	Scala Do	netrometer		
Depth	Undrained	blows		s/100mm)	Soil Description	Water
(mm)	Shear (kPa)	/100mm		3 10 12 14 16		Table
100				Result	TOPSOIL.	
200				Good	TOF SOIL.	
300	>205/			Ground	ENCINEEDED FILL: CLAV SILT vallow brown	
400					ENGINEERED FILL: CLAY SILT, yellow brown mottled orange, hard, low moisture, high plasticity.	
500					mottled orange, nard, low moisture, night plasticity.	
600	>205/				ENGINEERED FILL: Silty CLAY, yellow brown mottled	
700					orange, very stiff to hard, low moisture, high plasticity,	
800					moderately sensitive. 800mm: Becoming orange brown.	
900	150/87					
1000						
1100					1100mm: Carbonaceous material.	
1200	186/53					
1300						
1400					SILT with minor clay, light grey mottled orange, very stiff,	
1500	172/45				moist, high plasticity, moderately sensitive.	
1600						
1700	130/36				1600mm: Some carbonaceous material.	
1800						
1900						
2000	143/36					
2100					EOB at 2.0m, Target Borehole Depth	
2200						
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						

Notes: EOB	= End Of Borehole UTP	= Unable To Penetrate U	JTE = Unable To Extract
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- 1 Weather leading up to testing was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Subdivision Test & Repo Stage 16, Greenhill Par	171738-AREA-LUK-S16- 01		
Tested by	Sheet No.	Test Site	
			8014-8015

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100			Good	TOPSOIL.	
200	UTP		ground Result	ENGINEERED FILL: CLAY SILT, mix of brown and light grey, very	
300			100011	stiff to hard, low moisture, high plasticity, moderately sensitive.	
400				ENGINEERED FILL: CLAY minor silt, yellow brown,	
500	146/63			very stiff, low moisture, high plasticity, moderately	
600				sensitive.	
700				700mm: Becoming dark brown mottled orange.	
800	184/39			800mm: Becoming some carbonaceous material.	
900					
1000					
1100	156/66			1100mm:: Becoming orange brown.	
1200					
1300				1300mm: Carbonaceous material.	
1400	202/53				
1500				SILT with some clay, yellow brown mottled orange, very	
1600	10.1/00			stiff, low moisture, high plasticity, moderately sensitive.	
1700	104/36				
1800					
1900	4.40/00				
2000	143/36			COD at 2 Ore Target Davahala Davith	
2100 2200				EOB at 2.0m, Target Borehole Depth	
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

Notes: EOB = End Of Borehole	UTP = Unable To Penetrate	UTE = Unable To Extract
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- 1 Weather leading up to testing was: Fine
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- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Subdivision Test & Repo Stage 16, Greenhill Par	171738-AREA-LUK-S16- 01		
Tested by	Sheet No.	Test Site	
AK	3/02/2022	40	8016-8017

		No of	Scala	Penetrometer		
Depth (mm)	Undrained Shear (kPa)	blows	(Blo	ows/100mm)	Soil Description	Water Table
, ,	(0)	/100mm	0 2 4 6			
100				Ground	TOPSOIL.	
200				Results		
300	143/50					
400					ENGINEERED FILL: CLAY minor silt, orange brown	
500					mottled red, very stiff to hard, low moisture, high	
600	UTP				plasticity, moderately sensitive.	
700						
800					800mm: Becoming yellow brown mottled orange.	
900	186/84				900mm: Becoming CLAY SILT.	
1000			100			
1100						
1200	199/79				CIL T with some alow groomy vallow brown mottled	
1300					SILT with some clay, creamy yellow brown mottled orange, very stiff, low moisture, high plasticity, moderately	
1400	143/45				sensitive.	
1500					CONDITION.	
1600						
1700	111/39					
1800						
1900			i			
2000	140/47					
2100					EOB at 2.0m, Target Borehole Depth	
2200						
2300						
2400						
2500						
2600						
2700						
2800						
2900			!			
3000						
3100						
3200						
3300						
3400						
3500						

Notes:	EOB = End Of Borehole	UTP = Unable To Penetrate	UTE = Unable To Extract

- 1 Weather leading up to testing was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.		
Subdivision Test & Repo Stage 16, Greenhill Par	171738-AREA-LUK-S16- 01		
Tested by	Date	Sheet No.	Test Site
AK	23/06/2021	41	8018

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	0		(BI	a Penetrometer ows/100mm) 6 8 10 12 14 16	Soil Description	Water Table
100		7100111111	<u> </u>	-		Good		
200					H	Ground	TOPSOIL.	
300	114/42				Ħ	Result	ENGINEERED FILL: Silty CLAY traces of mica and carbonaceous	
400	,		H				material, dark brown speckled black, very stiff, low moisture.	
500	98/31							
600			T				Clayey SILT with minor fine pumiceous material and	
700	96/24		T				traces of mica, light brown mottled orange, stiff, low	
800					İ		moisture, high plasticity, moderately sensitive.	
900	98/33						800mm: Becoming moist, low plasticity.	
1000				,	1			
1100	205/69						1100mm: Becoming hard.	
1200							1200mm: Streaked light brown.	
1300	>205/							
1400								
1500	202/45						1500mm: Becoming moist.	
1600								
1700								
1800	>205/						SILT with some fine to medium sand, moist.	
1900							Clayey SILT with traces of mica and carbonaceous	
2000	>205/						material, dark reddish brown, hard, low moisture.	
2100							EOB at 2.0m, Target Borehole Depth	
2200								
2300			Щ					
2400			Ц					
2500			Ц					
2600			Щ					
2700			$oxed{\bot}$	-				
2800			$oxed{\bot}$	ļ				
2900			$oxed{\bot}$					
3000								
3100			4					
3200			$oxed{+}$	+				
3300			$oxed{\bot}$	-				
3400			$oxed{\bot}$	4				
3500								

Notes: EOB	= End Of Borehole UTP	= Unable To Penetrate U	JTE = Unable To Extract
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- 1 Weather leading up to testing was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.				
Subdivision Test & Repo	171738-AREA-LUK-S16-				
· ·	Stage 16, Greenhill Park, Hamilton				
Tested by	Date	Sheet No.	Test Site		
AK	23/06/2021	42	8020		

Depth	Undrained	No of				rometer	r	Soil Description	Water
(mm)	Shear (kPa)	blows /100mm	0	2 4	8 1	0 12 14	16	Soil Description	Table
100						God		TOPSOIL.	
200					_		ound sults	TOI SOIL.	
300	>205/							ENGINEERED FILL: CLAY SILT with traces of mica and	
400								fine pumiceous material, light brown, very stiff to hard,	
500								low moisture, high plasticity, moderately sensitive.	
600	130/47							,,,,,,,	
700									
800	111/39							800mm: Becoming moist.	
900								900mm: Becoming creamy light brown.	
1000	114/36								
1100								CLAY with some silt and traces of mica and fine	
1200	111/24							pumiceous material, grey mottled yellow, very stiff, low	
1300								moisture, high plasticity, moderately sensitive.	
1400	96/24								
1500				İ					
1600									
1700	96/33								
1800									
1900	111/36								
2000									
2100								EOB at 2.0m, Target Borehole Depth	
2200				Li					
2300									
2400									
2500									
2600									
2700				L					
2800									
2900									
3000									
3100									
3200									
3300									
3400									
3500									

Notes: EOB = End Of Borehole	UTP = Unable To Penetrate	UTE = Unable To Extract
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- 1 Weather leading up to testing was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.				
Subdivision Test & Repo	171738-AREA-LUK-S16-				
Stage 16, Greenhill Par	Stage 16, Greenhill Park, Hamilton				
Tested by	Date	Sheet No.	Test Site		

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm		Penetrometer ows/100mm) 6 8 10 12 14 16	Soil Description	Water Table
100				Good ground	TOPSOIL.	
200				Result		
300	202/50				ENGINEERED FILL: CLAY SILT with traces of mica, light grey and yellow brown, hard, dry, high plasticity, moderately sensitive.	
400					yellow brown, hard, dry, high plasticity, moderately sensitive.	
500	107/47				SILT with traces of clay, mica and carbonaceous material,	
600					grey brown speckled black, stiff to very stiff, low moisture,	
700	75/31				low plasticity, moderately sensitive.	
800	0.4/0.0					
900	84/20					
1000	10.1/0.1		/		0.11. 01.07. 11. 1	
1100	134/31				Silty CLAY, yellow brown, very stiff, moist.	
1200	00/00				Clayey SILT with traces of fine pumiceous material and	
1300	98/20				carbonaceous material, yellow brown, stiff, low moisture,	
1400	00/00				high plasticity, sensitive.	
1500	96/20		1		4000 Biit	
1600					1600mm: Becoming moist.	
1700	04/00				1700mm: Becoming some clay.	
1800	81/20				1800mm: Becoming very moist.	
1900 2000						
2100			1		EOB at 2.0m, Target Borehole Depth	
2200					LOB at 2:0111, Target boreflole Depth	
2300			1			
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						

Notes:	FOB = Fnd Of Borehole	UTP = Unable To Penetrate	UTF = Unable To Extract

- 1 Weather leading up to testing was: Fine
- 2 Ground water was not encountered during testing
- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
- 4 Shear Vane records include Re-moulded values where possible
- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Project Name	Job Ref.			
Subdivision Test & Repo	171738-AREA-LUK-S16-			
Stage 16, Greenhill Par	k, Hamilton	01		
Tested by	Date	Sheet No.	Test Site	
1 ootou by	Date	011001110.	. 001 0.10	

Depth	Undrained	No of blows	Scala Penetromete (Blows/100mm)	er	Soil Description	Water
(mm)	Shear (kPa)	/100mm	`	4 16	201. 200. p	Table
100				Result	TOPSOIL.	
200			6	Good	TOT SOIL.	
300			G	round	ENGINEERED FILL: SILT with some fine sand,	
400	>205/				interbedded light grey brown, very stiff to hard, low	
500					moisture, low plasticity.	
600					Silty CLAY with some carbonaceous material, traces of	
700	159/53				mica and fine pumiceous material, dark reddish brown,	
800					very stiff, low moisture, high plasticity, moderately	
900	180/63				sensitive.	
1000						
1100	190/53				CLAY SILT with traces of fine pumiceous material, yellow	
1200					brown, very stiff to hard, low moisture, high plasticity,	
1300					moderately sensitive.	
1400	>205/					
1500						
1600	400/00					
1700	186/36				1900mm December come dev	
1800					1800mm: Becoming some clay.	
1900 2000	>205/				1900mm: Low sample retention.	
2100	~ZU3/				EOB at 2.0m, Target Borehole Depth	
2200					LOD at 2.0111, Taiget boreflole Deptil	
2300						
2400						
2500						
2600						
2700						
2800						
2900						
3000						
3100						
3200						
3300						
3400						
3500						

Notes:	FOB = Fnd Of Borehole	UTP = Unable To Penetrate	UTF = Unable To Extract

- 1 Weather leading up to testing was: Fine
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- 3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
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- 5 Shear Vane Serial No.: 1471 Exp. Date: 15/11/2022



Test Average

Air Voids AV%

107

8

200

86

Compaction PR%

Shear Strength kPa

Degree of Saturation

Earth Fill at Greenhill Park, Stage 16. Lot 450 SRP Backfill.

Soil Material: Silty ClayTargetsAverageMinMaxSolid Density kg/m³:2800 (Assumed)Compaction PR%:≥ 9590-Maximum Dry Density kg/m³:1060 Report# HA6441/2Air Voids AV%:≤ 10-12

Optimum Moisture Content: 54.0 % Shear Strength kPa: Average Field Moisture Content: 44.9 % Degree of Saturation:

Date: 17/01/2022

Site Tech: AK Test Methods : Shear Strength (Shear vane NZGS 2001): Nuclear Densometer Testing (NZS 4407:2015 Test 4.2)

≥ 140

100

	Test Location: Refer Sk	etch									Fiel	d Shear Streng	th (kPa). She	ar Vane S/N: 14	71
Test#	RL	II *	Thickness mm	Probe Depth mm	Wet Density kg/m³	Moisture Content MC%	Dry Density kg/m ³	Degree of Saturation DOS	Air Voids AV%	Compaction PR%	Test A	Test B	Test C	Test D (probe hole)	Average kPa
1	37.900	Ţ	500	300	1655	44.6	1145	86	8	108	210+	210+	210+	210+	210
2	37.800	Ţ	500	300	1591	45.0	1097	81	11	104	210+	210+	210+	210+	210
3	37.300	Ţ	500	300	1699	45.0	1172	91	5	111	150	207	210+	153	180



Earth Fill at Greenhill Park, Stage 16. Lot 450 SRP Backfill.

Date: 17/01/2022





Earth Fill at Greenhill Park, Stage 16.

Soil Material: Silty Clay

Solid Density kg/m³:

Maximum Dry Density kg/m³:

Optimum Moisture Content:

Average Field Moisture Content:

2800 (Assumed)

54.0 %

52.3 %

1060 Report# HA6441/2

Targets Compaction PR%: Average Min Max ≥ 95 90 ≤ 10 12

Air Voids AV%: Shear Strength kPa: **Degree of Saturation:**

≥ 140 100 **Test Average**

Compaction PR% 102 Air Voids AV% 5 Shear Strength kPa 169 **Degree of Saturation** 92

Date: 22&23/01/2022

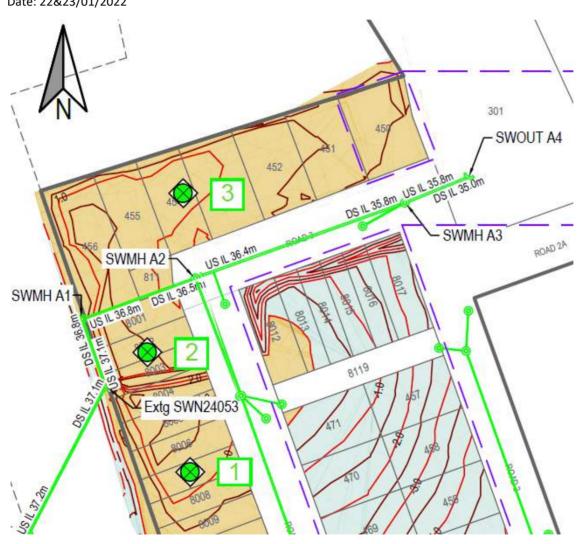
Site Tech: ΑK Test Methods: Shear Strength (Shear vane NZGS 2001): Nuclear Densometer Testing (NZS 4407:2015 Test 4.2)

	Test Location	on: Refer Sketch									Field	Shear Streng	th (kPa). Sh	near Vane S/N:	: 1471
Test#	RL		Layer Thickness mm	Probe Depth mm	Wet Density kg/m³	Moisture Content MC%	Dry Density kg/m³	Degree of Saturation DOS	Air Voids AV%	Compaction PR%	Test A	Test B	Test C	Test D (inside probe hole)	Average kPa
1	39.900		500	300	1676	50.0	1117	93	4	105	150	150	132	180	153
2	38.800		500	300	1652	49.8	1103	91	6	104	159	195	186	150	173
3	38.520		500	300	1607	50.0	1071	87	8	101	210+	135	180	162	168
4	38.000		500	300	1663	51.7	1096	93	4	103	204	174	150	198	182
5	40.000		500	300	1642	51.4	1085	91	6	102	156	156	210+	183	167
6	41.700		500	300	1656	52.3	1087	93	4	103	165	165	135	141	152
7	39.000		500	300	1617	57.1	1029	93	4	97	165	150	180	165	165
8	39.600		500	300	1690	56.4	1081	99	0	102	210+	210+	150	195	191



Earth Fill at Greenhill Park, Stage 16. Lot 450 SRP Backfill.

Date: 22&23/01/2022





Earth Fill at Greenhill Park, Stage 16. Lot 450 SRP Backfill.

Date: 22&23/01/2022



Appendix E <u>Stormwater Management</u> (Minimum Lot Levels)



APPENDIX 2

Roading QA Documentation

Road Subgrade – 2(a)

- Drawing 30410-01-S16-BR1 (in lieu of strings)
- Clegg Hammer Tests

-

Road Subbase – 2(b)

- Drawing 30410-01-S16-BR2 (in lieu of strings Road 1)
- Clegg Hammer Tests
- WHAP 65 material test
- Email HCC confirmation to WHAP 65 from GAP 65

Road Basecourse 2(c)

- Nuclear Densometer Results
- Benkelman Beam Test Results
- Basecourse Strings
- TNZ M/4 AP40 Material Tests

Surfacing & RAMM Data 2(d)

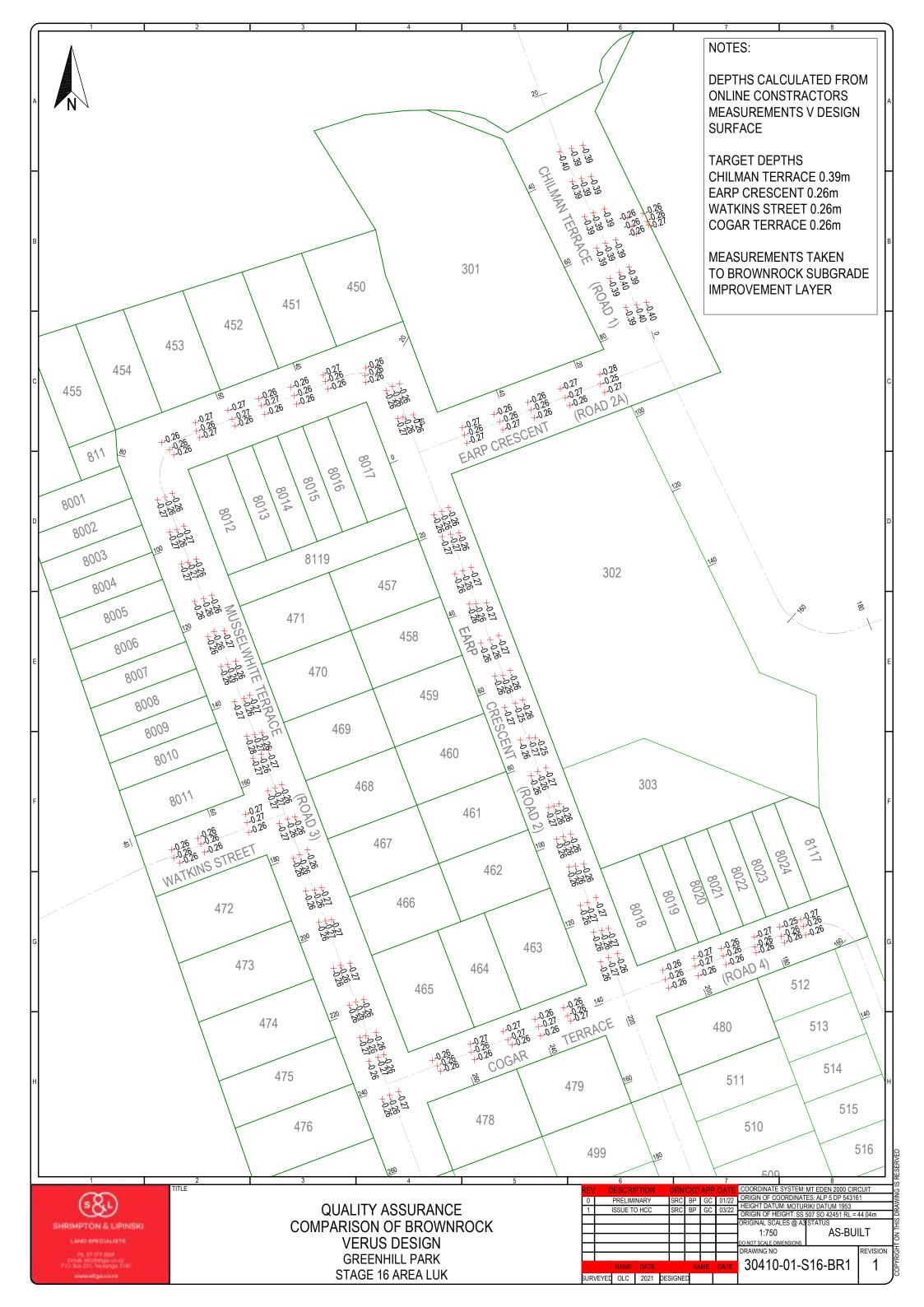
- HCC pavement RAMM data
- Surfacing RAMM data

APPENDIX 2(a)

Roading QA Documentation

Road Subgrade

- Drawing 30410-01-S16-BR1 (in lieu of strings)
- Clegg Hammer Tests





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COMPACTION - CLEGG TESTS

Contract	Stage 16	6 GHP	Job No.	-
Site/Chainage _	Road	d 1	_ Date	5/10/2021
Material _	Brown ro		Recorded by	Jordan Allen
Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
20	20		27	
30		20		
40	37			
50			34	
60		23		
70	36			
80			32	
90		32		
100	33			
110			24	
120		26		
130	35			
140			25	
150		32		
			ļ	
			ļ	
			+	
			 	
			+	
			+	
			+	
Source of conve	ersion: Inferred CBR%	%=0.07(Impact Va	alue) ² /100	
- -				

Clegg Road 1.xlsx Page 1



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COMPACTION - CLEGG TESTS

Contract	Stage 16	6 GHP	_Job No.	
Site/Chainage	Road	d 1a	Date	5/10/2021
			Recorded by	Jordan Allen
Material	Brown ro	ock SIL	_	
Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
190		25		
		 		T
Source of conve	ersion: Inferred CBR%	— %–∩ ∩7/Impact V:	alue) ² /100	
	noion. miorios 52	0-0.01 (111)0-00.	nae, , ree	
Remarks				

Clegg Road 1a.xlsx Page 1



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COMPACTION - CLEGG TESTS

Contract	Stage 10	6 GHP	Job No.	
Site/Chainage	Road	d 2	_ Date	5/10/2021
	_		Recorded by	Jordan Allen
Material _	Brown ro	ock SIL	_	
_				
Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
0	27			
10		43		
20			22	
30	23			
40		50		
50			39	
60	25			
70		31		
80			19	
90	53			
100		396		
110			19	
120	25			
130		37		
140			27	
150	24			
160		29		
		<u> </u>		
Source of conve	ersion: Inferred CBR%	0/_0 07/Impact \/:	alua) ² /100	
	TSIOH. IIIIGHGG OD. C	″=0.07 (IIII)paoc +0	ilue) /100	
Remarks _				
-				

Clegg Road 2.xlsx Page 1



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COMPACTION - CLEGG TESTS

Contract	Stage 16	6 GHP	Job No.	
Site/Chainage	Road	l 2a	Date	5/10/2021
Material _	Brown ro	ock SIL	Recorded by	Jordan Allen
-				
Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
10	42			
20		33		
30			21	
40	36	<u> </u>		
50		30		
60			40	
				1
				-
				-
				1
				ļ
				ļ
				ļ
				ļ
				ļ
		 		
		 		
				<u>l</u> ,
Source of conve	ersion: Inferred CBR%	%=0.07(Impact Va	alue) ² /100	
Remarks				
_				

Clegg Road 2a.xlsx Page 1



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COMPACTION - CLEGG TESTS

Contract	Stage 16	6 GHP	Job No.	
Site/Chainage	Road	d 3	Date	5/10/2021
Material _	Brown ro		Recorded by	Jordan Allen
Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
0	24	<u> </u>	1	
10		26	1	
20		<u> </u>	20	
30	33	<u> </u>	1	
40		36		
50		<u> </u>	26	
60	46	<u> </u>		
70		44		
80			20	
90	29	 		
100		36		
110			29	
120	24			
130		29		
140			33	
150	29			
160		33		
170			27	
180	25			
190		37		
200			39	
210	33			
220		45		
230			28	
240	30			
250		27		
260			25	
Source of conve	ersion: Inferred CBR%	%=0.07(Impact Va	alue) ² /100	

Clegg Road 3.xlsx Page 1



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COMPACTION - CLEGG TESTS

Contract	Stage 16	GHP	Job No.	-
Site/Chainage _	Road	14	Date	5/10/2021
Material _	Brown ro	ock SIL	Recorded by	Jordan Allen
Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
150		31	1119	
160			23	
170	28			
180		31		
190			26	
200	20			
210		34		
220			48	
230	21			
240		57		
250			23	
260	41			
270		38		
280			32	
			_	
			+	
Source of conve	ersion: Inferred CBR%	%=0.07(Impact Va	alue) ² /100	
-				

Clegg Road 4.xlsx Page 1



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COMPACTION - CLEGG TESTS

Contract	GHp Sta	age 16	Job No.	
Site/Chainage	Watk	ins	Date	10/01/2022
		_	Recorded by	Jordan Allen
Material _	Brown Ro	ock SIL	_	
-				
Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
10	30	<u> </u>		
20		25		
30		 	29	
40	28	 		
50		35		
60		 	25	
70	30	 		
		<u> </u>		
Source of conve	ersion: Inferred CBR%	 %_0 07/Impact V:		
	131011. 111101104 02,	0-0.07 (mpace 10	ilde, 7100	
Remarks				
-				

Clegg Sheet Watkins (1).xlsx Page 1

APPENDIX 2(b)

Roading QA Documentation

Road Subbase

- Drawing 30410-01-S16-BR2 (in lieu of strings)
- Clegg Hammer Tests
- WHAP 65 material test
- Email HCC confirmation to WHAP 65 from GAP 65





Email: Todd@onlinecontractors.co.nz

Ph: 07 853 9422

COMPACTION - CLEGG TESTS

Contract	Stage 1	6 Ghp	Job No.	
Site/Chainage	Road	<u>d 1</u>	Date	13/01/2022
			Recorded by	Jordan Allen
Material _	Gap	65	_	
<u>-</u>				
Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
20	32	<u> </u>		
30		47		
40		<u> </u>	32	
50	51			
60		53		
70		 	29	
80	49	4.4		
90		41		
		 		
			_	
			+	
			-	<u> </u>
Source of conve	ersion: Inferred CBR%	%=0.07(Impact Va	alue) ² /100	
			· · · · · ,	
Remarks _				
-				

Clegg Sheet Road 1 gap65.xlsx Page 1

BASECOURSE COMPACTION CONTROL TNZ - B2 TEST RESULTS

Project Location: Greenhill - Stage 16

Road 1

Client: Contractor: Online Contractors (2016) Limited Online Contractors (2016) Limited

Date tested : Tested by: 14/01/22 J. Waru-Savage

Sample description:

Solid density (tested): Nuclear densometer no: 62431

Opt. water content (tested) :

WHAP65 (ex Tauhei Quarry)

Max dry density (tested): 214 27 t/m2 ZH.

Project No: Client Ref No Lab Ref No: HAB438 NDM 2-68015.00

					The second second	NAME AND ADDRESS OF TAXABLE PARTY.	STATE OF THE PARTY OF THE PARTY OF	1000000		
est Number		2	bei	4	US	0	7	80	10	10
est Position	CH20	CH30	CH40	CHSO	CH60	CH70	CH80	CH90	CHILDO	CHTIO
Offset	IWI	RWT	TWT	RWT	TWI	RWT.	TWT	RWT	TWT	RWT
Probe Depth (mm)	B/S	B/S	BAS	B/S	8/8	8/8	B/S	B/5	B/S	B/S
Wet Density (t/m²)	2.26	223	233	2.29	2.30	231	218	2.32	223	2.34
Dry Density (t/m²)	2.18	2.18	7.29	2.22	2.23	224	2.13	2.25	2.17	226
Vater Content (%)	3.4	2.7	2.1	N N	3.5	5.0	24	2.9	2.7	151
# of MDD	102	102	107	104	104	105	100	105	102	106
% Saturation	38	30	33	40	44	39	24	39	30	45

	Oven Corrected Test Results	
Dry Density (t/m²)		
Water Content (%)	NOT TESTED	
% of MDD		
% Saturation		
W.	10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	

IANZ Approved Signatory

Insitu Density: NZS 4407: 2015, Test 4.3 for Backscatter Mode

No. HA7987/2_VHMDD (November 2021) MDO from WSP Hamilton Laboratory - Report

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Noces

Test Methods

Date: Designation:

Senior Civil Engineering Technician 14/01/22

Caronto.

All tests reported herein have been performed in accreditation accordance with the laboratory's scope of

PF-LAB-037 (T/07/2020)

Date reported:

14/01/22

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> > Page 1 of 1

WEATHERING QUALITY OF COARSE AGGREGATE TEST REPORT



Project: Quality Assurance

Stockpile Location:

Online Contractors (2016) Limited Client:

Contractor:

Sampled by: J Tarawa (WSP Hamilton Lab)

Date sampled : 27/09/21

Sampling method : NZS 4407: 2015, 2.4.6.3.2

Sample description : WHAP65 Sample condition: Moist

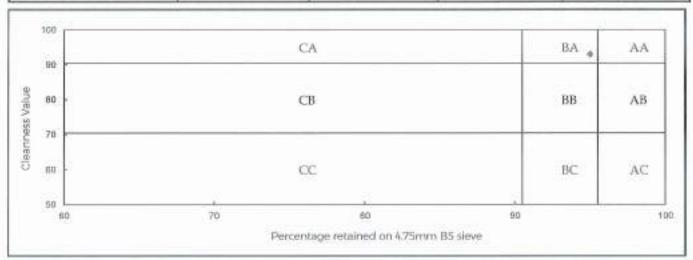
Source: Tauhei Quarry Project No: 2-68015.00 Lab Ref No: HA7987/2_WQI

Client Ref No:

Test Results

Percentage Retained on 4.75mm BS Sieve After 10 Cycles 95 93 Cleanness Value After 10 Cycles BA Weathering Quality Index (see table below)

	Percenta			
Cleanness Value	96 - 100	91 - 95	up to 90	Specified
91 - 100	AA	BA	CA	
71 - 90	AB	BB	CB	AA, AB, AC
up to 70	AC	BC	CC	BA, BB, CA



Test Method	Notes
Weathering Quality Index, NZS 4407/2015, Test 3.11	 is graphed value of Weathering Quality Index. Specification from Hamilton City Development Manual Aug. 2009.

Date tested: 8/11/2021 Date reported - 10/11/21

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Designation: Senior Civil Engineering Technician

Date: 10/11/21



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PF-LAB-054 (N/07/2020)

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DRY DENSITY / WATER CONTENT RELATIONSHIP VIBRATING COMPACTION



Project: Quality Assurance

Location : Stockpile

Online Contractors (2016) Limited Client:

Contractor:

Sampled by: J.Tarawa (WSP Hamilton Lab)

Date sampled : 27/09/21

Sampling method -NZS4407:2015,2.4.6.3.2

WHAP65 Sample description :

Sample condition : Moist

Solid density: 2.71 t/m1 (Tested) Source:

Lab Ref No: Tauhei Quarry

2-68015.00

HA7987/2_VHMDD

Client Ref No:

Project No:

				est Results												
Maximum dry de Optimum water		2.14 5	t/m³ %		Natural wate Fraction test		2.6 <37.5mm	96								
Sample ID		Nat	60	120	180	240										
Bulk density	t/m²	2.096	2169	2.254	2.251	2.270										
Water content	96	2.6	3.9	5.2	6.2	7.1										
Dry clensity	t/m²	2.043	2.087	2143	2.119	2120										
ample condition	3	Moist Loose	Wet Med Dense	Wet Med Dense	Wet Med Dense	Saturated Loose										
2,180 -				Compactio	n Curve			7.0								
2.140 2.120 2.120 2.100 2.080								Deesity Cur Th Air Veel 2,060								
2.000																
2	3		4 Water	5 Content %		6	7									

Test Methods		Notes		
Compaction	NZS 4402 : 1986 : Test 4.13	Solid Density from report HA7987/2_SD		

Date tested: 28/10/21 Date reported : 03/11/21

Sampling is covered by IANZ Accreditation This report may only be reproduced in full

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Designation: Senior Civil Engineering Technician

Date: 03/11/21

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PF-LAB-027 (10/07/20)

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Hamilton, New Zealand

Website www.vap.com/nz.

SOLID DENSITY OF AGGREGATE PARTICLES TEST REPORT



Project:

Quality Assurance

Location:

Stockpile

Client:

Online Contractors (2016) Limited

Contractor:

Sampled by:

J.Tarawa (WSP Hamilton Lab)

Date sampled:

27/09/21

Sampling method:

NZS 4407;2015 Method 2.4.6.3.2

Sample description: Sample condition:

WHAP65

Source:

Moist Tauhei Quarry Project No:

2-68015.00

Lab Ref No:

HA7987/2 SD

Client Ref No:

Test Results

Fraction Tested:

Retained 4.75mm sieve

	Coarse	Fine	Composite
Solid Density (t/m*):	2.71		

Test Method	Notes	
NZS 4407: 2015 test 3.7.2 - Immersion method for coarse aggregate		

Date tested: 20/10/21 Date reported: 03/11/21

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IANZ Approved Signatory

Designation:

Senior Civil Engineering Technician

Date:

03/11/21

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WHAP 65 TEST REPORT

Project:

Quality Assurance

Location:

Stockpile

Client:

Online Contractors (2016) Limited

Percentage Passing

Contractor:

Sample

100

71

40

22

14

9

6

5

3

% pasting the finest sieve is obtained by difference

Sampled by:

J.Tarawa (WSP Hamilton Lab)

Date sampled :

27/09/21

Sampling method: NZS 4407: 2015, 2.4.6.3.2

Particle Size Distribution

Lower Limit

55

35

20

10

2

O

Sample description : WHAP65 Sample condition :

Moist

Source:

Siava Siza

(mm)

63.0

37.5

19.0

95

6.75

236

118

0.600

0.300 0.150

0.075

Tauhei Quarry

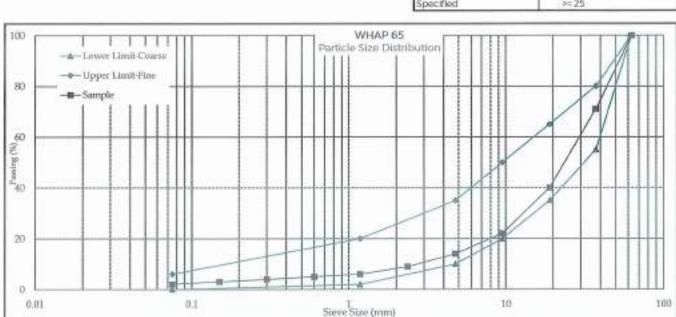
Project No:	2-68015.00
Lab Ref No:	HA7987/2_SA

Client Ref No:

Crushir	ng Resistance		_
% Fines Spec Load	3.4	96	
Specification	<10	96	
Crushing Resistance	>130	lidN	
Nom Aggregate Size	13.2 - 9.5	min	
Specified Load	130	MN	

Broken Faces	Content of Aggr	egate
Fraction	Percentag	e by Weight
(mm)	Sample	LowerLimit
63.0 - 37.5	-	50
57.5-19.0		50
19.0 - 9.5		50
95-475		50

Sand Equivalent	(Washed, Mechanical Shaking)
Sample SE	31
Specified	≥= 25



Upper Limit

100

80

65

50

35

20

Test Methods Particle Size Distribution NZS-4407 : 2015 : Test 3.8.1 Sand Equivalent NZS 4407 : 2015 : Test 3.6 Crushing Resistance NZS 4407 : 2015 : Test 3.10 Grading envelope from Hamilton City Development manual (2009)

Date tested: Date reported: 19/10-03/11/21

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tANZ Approved Signatory

Designation:

Senior Civil Engineering Technician

Date:

4/11/21

4/11/21

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Page 1 of 1

Telephone +64 7 856 2870 Website www.wsp.com/nz

Barry Pearson

From: Sent

Martyn Smith k Martyn Smith@hcu.govt.nz> Monday, 27 September 2021 12:05 PM

To:

Barry Pearson

Cc:

Daniel Manning; Murray Giles

Subject:

Attachments:

Rt: Document issue No 108 - WHAP 65 vs GAP 65 aggregate. Greenhill Park Subbase aggregate-1 0-WHAP 65 report pdf.

Hi Barry,

We have reviewed that attached document and can accept the WHAP 65 in this instance only. In future stages please source a complying GAP 65.

This is based on the pavement below:

- 150mm TNZ M/4 AP40
- 200mm Subbase (Proposed WHAP 65 v GAP 65).
- founced on the 500mm BBR CBR>15 layer.

Regards,

Martyn Smith

Development Engineer | Strategic Development Unit

DDI: Q7 838 6877 | Email: martyn.smith@hcc.govt.nz



Hamilton City Council | Private Bag 30L0 | Hamilton 3240 | www.hamilton.govt.nz



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From: Martyn Smith

Sent: Friday, 24 September 2021 7:39 pm. To: Murray Glies < Murray Giles1@licc govt.it> Cc: Daniel Manning < Daniel Manning@hcc.govt.nz>

Subject: FW: Document issue No 108 | WMAP 65 vs GAP 65 aggregate

Hi Murray, (Daniel – is the pavement I describe below, correct?).

As groupsed, do you think this material is suitable as subbase on the collector/bus route?

I believe the pavement design is:

APPENDIX 2(c)

Roading QA Documentation

Road Basecourse

- Nuclear Densometer Results
- Benkelman Beam Test Results
- Basecourse Strings
- TNZ M/4 AP40 Material Tests



Location : Road 1

Client : Online Contractors (2016) Limited Contractor : Online Contractors (2016) Limited

Test method : TNZ T/I 1977
Pavement type : TNZ M/4 AP40

Pavement temp "C+

Weight on rear axle: 8.3 tonnes

Tested by: J. Waru-Savage, C. Robertson

Project No:

2-68015.00

Lab Ref No:

HA8479

Client Ref:

			Test Results	ACCOUNT OF THE PARTY OF THE PAR
peatien		Deflections (mm)		Communits
Metrics	Left WT	Flight WT		Communits
20	0.74			
30		0.88		
40	0.90			
50		0.96		
60	0.98			
70		0.74		
80	0.82			
90		20.78		
100	0.92			
TIO		0.86		
120	1.08			
	Q.	98	90 Decree	ntile calculated for all data in columns 3 to

Deflection Statistical Analysis (for all deflections)

Maximum (mm): 1.08 Minimum (mm): 0.74 Average (mm): 0.88

Note: Results in Italics have a difference between intermediate and Final readings that are greater than 3 (refer TNZ TA 1977).

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Date tested : 21/01/2022 Date reported : 21/01/2022

IANZ Approved Signatory

Designation: Senior Civil Engineering Technician

Date: ZI/01/2022

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PF-LAB-OSE (21/116/2/021)

Page 1



Project: Creenhill - Stage 16

Location: Road 1

Tested by: Contractor Client J. Waru-Savage, C. Robertson Online Contractors (2016) Limited Online Contractors (2016) Limited

Date tested

21/01/22

Nuclear densometer no: Sample description

Solid density (tested) : 6243 275

Opt water content (tested) : Max dry density (tested): 5.0 230

TNZ M/4 AP40 (ex Tauhei Quarry)

A. M.

t/m* 8

Project No: Lab Ref No 2-68015.00 HAB479 NOM

Client Ref No:

est Number		2	LH CH	4	5	0	7	200	2	200	000
sition	CH20	CH30	CH40	CH50	CH60	CH70	CH80	CH90	5	00	_
	LWT	RWT	LWIT	RWT	LWT	RWT	TWT	RWT	Ę.	TW	-
e Depth (mm)	即/5	B/S	B/S	B/S	B/S	5/8	B/S	B/S	m	UT.	
et Density (t/m²)	2.37	2.39	2.44	2.35	2.44	2.37	2.36	235	10	44	-
y Density (t/m²)	228	2.29	235	2.25	234	2.28	227	225	12	35	-
Water Content (%)	3.7	42	4.7	4 in	40	3.9	4.1	4.4		47	-
of MDD	99	100	102	986	102	99	99	98		02	-
Saturation	50	58	65	56	64	52	15	55		65	53

25	Oven corrected less results	Dry Density (Vm²)	Water Content (%)	2000

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Instru Density : NZS 4407 : 2015, Test 4.3 for Backscatter Mode

MDD and Solid Density from WSP, Hamilton Lab

Report No. HA7753_VHMDO (September 2020)

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Notes

Test Methods

Designation

21/01/22 Senior Civil Engineering Technician

OF PARON PARON Cations of

> cooreditation accordance with the laboratory's scape of have been performed in All tests reported herein

DF-LAB-037 (II/07/2020)

Date reported:

21/01/22

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Page 1 of 1

Website www.wsp.com/hz Telephane +84 7 856 2870

Project: ocation: Creenhill - Stage 16

Road 3

Online Contractors (2016) Limited

Tested by: J. Waru-Savage, C. Robertson

Online Contractors (2016) Limited

Contractor: Client:

Date tested 18/01/22

Sample description :

Solid density (tested) : Nuclear densometer no: 33576

Max dry density (tested): 2,30 2.75

Opt water content (tested) :

TNZ M/4 AP40 (ex Tauhei Quarry)

t/mo 學

Client Ref No. Lab Ref No: Project No:

> 2-68015,00 HA84568_NDM

Saturation	% of MDD	er Content (%)	Dry Density (t/m²)	Density (t/m²)	oe Depth (mm)	Offset	Position	Number	
354	96	3.0	222	2.28	B/S	LWT	CH240	1	
ti	96	3.7	2.22	2.30	8/8	TWE	CH230	2	
43	97	5.7	2.23	2.31	B/S	LWI	CHZZO	Col	
42	98	136	2.26	234	S/B	RWT	CHZIO	4	
94	99	isi is	2.27	235	B/S	LWT	CHZOD	uh	The same of the sa
37	86	3.0	2.25	2.32	B/S	RWT	CH190	6	ACCIDENT DESIGNATION OF THE PARTY OF
1	775				B/S	LWT	CHI80	7	The same of
		34	n		S/B	RWT	CH170	00	- marine
32	97	29	2.24	230	8/8	TWIT	CH160	10	
26	97	2.2	2.22	227	S/B	RWT	CH150	10	
30	98	2.4	226	2.31	B/S	TWT	CH140	П	
39	86	3.1	2.26	2.55	B/S	RWI	CHISO	12	
333	97	28	2.23	2.30	8/8	TWT	CH120	13	
67	99	55	228	235	BIS	RWT	CHIIG	14	

	Oven Corrected Test Results	
Dry Density (t/m²)		
Water Content (%)	NOT TESTED.	
% of MDD	100	
% Saturation		

	Notas
Instu Density : N2S 4407: 2015, Test 4.3 for Backscatter Mode	MDD and Solid Density from WSP, Hamilton Lab -
	Report No. "HA7753_VHMDD" (September 2021)

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18/01/22 Senior Civil Engineering Technicion

Designation: Date

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Page 1 of 2

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Date reported:

18/01/22

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> Wabsite www.wsp.com/nz Telephone +64 7 856 2870



Project: Creenhill - Stage 16

Location: Road 3

Client: Online Contractors (2016) Limited Online Contractors (2016) Limited

Contractor: Tested by:

Date tested J. Waru-Savage, C. Robertson 18/01/22

> Sample description : TNZ M/4 AP40 (ex Tauhei Quarry)

Nuclear densometer no: 33576 C'ma

Solid density (tested) : Max dry density (tested): 2.30 2.75 S/m²

Opt water content (tested):

Lab Ref No: Project No: HA84568 NDM 2-68015.00

Client Ref No

Test Number	ń	56	.77	56	10	19 20	27	3	22	24
The state of the s	-	-								
Test Position	CHIOD	06H0	CHBO	CH70	CH60	CH50	CH40	CH30	CH20	CHIO
Offset	LWI	RWT	LWI	RWT	EWI	RWT	TWT	RWT	LWT	HWT
Probe Depth (mm)	B/S	B/S	S/B	B/S	B/S	8/8	BVS	B/S	s/8	B/S
Wet Density (t/m²)	2.36	2.37	2.39	230	236	229	2.36	2.29	2.30	2.34
Dry Density (t/m²)	230	2.51	2.32	2.23	2.29	223	2.28	2.22	2.25	2.28
Water Content (%)	26	26	2.9	11	2.7	2,6	3.2	3.0	5 32 30 28	2.5
% of MDD	100	101	101	97	100	97	99	97	97	99
% Saturation	B	38	43	36	37	듸	43	35	tst St	34

	Oven Corrected Test Results	
Dry Density (t/m²)		
Water Content (%)	CELECTON	
% of MDD		
% Saturation		

Test Methods	Notes
Insitu Density NZS-4407 2015, Test 4,3 for Backscatter Mode	MIDD and Solid Density from WSP, Hamilton Lab -
	Report No: "HA7753_VHMDD" (September 2021)

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IANZ Approved Signatory

Designation

Senior Civil Engineering Technician 18/01/22



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PE-LAB-057 (TL)07/2020)

Date reported:

18/01/22

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> > Page Z of Z



Project: Greenhill - Stage 16

Location: Road 2

Client: Online Contractors (2016) Limited Contractor: Online Contractors (2016) Limited

Tested by: J. Waru-Savage, C. Robertson Date tested: 18/01/22

Sample description: TNZ M/4 AP40 (ex Tauhei Quarry)
Nuclear densameter no: 33576

Nuclear densameter no: 33576 Solid density (tested): 2.75

CH.

Opt water content (tested): 5.0

Max dry density (tested):

2.30

家

Lab Ref No : 2-68015.00

Lab Ref No : HA8456b_NDM

Client Ref No :

Test Number		2	tal:	4	un	a	7	8	10	10	=======================================	12	CI.	
Test Position	CHIO	CHZO	CH30	CH40	CH50	CH60	CH70	0 CH70 CH80 CH90 I	CH90	CHIOO	CHTIO	CHIZO	CHISO	
Offset	RWT	TWT	RWT	LWT	RWT	LWIT	RWT	TWT	RWT	TWT	RWT	LWIT	RWT	
Probe Depth (mm)	B/S	B/S	B/S	BIS	B/5	B/S	B/S	B/S	8/8	B/S	B/S	B/S	B/S	
Wet Density (t/m²)	2.31	2.57	2.33	2.31	237	231	229	2.26	2,30	2.31	2.33	2.35	2.32	
Dry Density (t/m²)	2.24	2.29	227	2.24	2.30	225	2,22	220	224	2.24	2.27	2.29	2.23	
Water Content (%)	33	3.1	2.6	29	2.9	2.6	3.4	2.8	26	2.8	2.6	2.7	4.7	
% of MDD	97	100	99	97	100	96	96	96	97	98	99	100	97	98
% Saturation	39	45	34	CAL CD	41	Si	39	31	32	Y.	34	37	48	

	Oven Corrected Test Results	
Dry Density (t/m²)		
Water Content (%)	UST TESTED	
% of MDD	100	
% Saturation		

	Insitu Density: NZS 4407: 2015. Test 4.3 for Backscatter Mode	Test Methods
Report No: "HA7753_VHMDO" (September 2021)	MDD and Solid Density from WSP, Hamilton Lab -	Notes
This report may only be reproduced in full		

J. Wardens

IANZ Approved Signatory

Seniar Civil Engineering Technician 18/01/22

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Page I of 1

PIF-LAS-037 (1)/07/2020)

Date reported:

18/01/22

Designation |

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> Telephone +64 7 856 2870 Website www.wsp.com/hit



Project: Greenhill - Stage 16

Road 4

Online Contractors (2016) Limited Online Contractors (2016) Limited

Client: Location:

Tested by: Contractor Waru-Savage, C. Robertson

Date tested : 18/01/22

> Sample description: TNZ M/4 AP40 (ex Tauhei Quarry)

Nuclear densometer no: 33576

Max dry density (tested): 230 t/m²

275

Vm.

Solid density (tested):

Opt. water content (tested):

Lab Ref No: Project No: HAB456C NDM 2-68015.00

Client Ref No

tNumber		2	N	4	U	C)	7	00	۵	10	17	12	_
Test Position	CH280	CH270	CH260	CH250	CH240	CH250		CHZZO CHZIO CHZC	CH200	CH190	CH180	CH170	
Offset	TWI	RWT	TWT	RWT	LWT	RWT		RWT	LWT	RWT	LWI	TWE	
Probe Depth (mm)	B/S	8/8	B/S	B/S	B/S	B/S		B/S	B/S	B/5	B/S	B/S	- 1
Wet Density (t/m²)	2.37	2.33	225	2.32	229	236		2.34	2.32	2.26	2.30	2.32	
Dry Density (t/m²)	2.31	2.26	218	2.25	222	2.29		2.26	226	2.79	2.23	2.24	
Water Content (%)	2.8	2.8	29	3,0	512	3.1		3,4	2.8	UI UI	3.2	3.7	
% of MDD	100	98	95	90	96	100	8	98	98	95	97	97	
% Saturation	40	36	23	57	57	43	1	43	35	C4 C5	38	45	-1

	Oven Corrected Test Results	The state of the s	
Dry Density (t/m²)			
Water Content (%)	Calibrit LON		
% of MDD	200 110110		
% Saturation			

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	Ē	5	
	5	2	
3	Ğ	3	

MDD and Solid Density from WSP, Hamilton Lab

Notes

Report No. "HA7753_VHMDD" (September 2021)

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Senior Civil Engineering Technician 18/01/22



have been performed in accordance with the laboratory's scope of COCCEDENCE All tests reported herein

Page 1 of 1

PF-LAB-037 (ht/07/0020)

Date reported :

18/01/22

Date: Designation : Test Methods

insitu Density : NZS 4407 : 2015, Test 4.3 for Backscatter Mode

Hamilton (Fox St)

Quality Management Systems Certified to ISO 9001

4 Fox Street

Private Bag 5057, Walkato Mail Centre, 5240, Hamilton, New Zealand

> Website www.wsp.com/hz Telephane +64 7 856 2870

Project Location: Greenhill - Stage 16

Road 2a

Contractor: Client: Online Contractors (2016) Limited Online Contractors (2016) Limited

Tested by: J. Waru-Savage, C. Robertson 18/01/22

Date tested

Sample description : Nuclear densometer no:

33576

SH.

Solid density (tested) : 2.75 230

Opt water content (tested) : Max dry density (tested): 5,0

TNZ M/4 AP40 (ex Tauhel Quarry)

다 8

Project No:

2-68015.00

Client Ref No Lab Ref No: HAB456d_NDM

					Nuclear	Densometer lest Results
Test Number	1	2	ы	4	ıs	
Test Position	CHZO	CH30	CH40	OBHO	09H0	
Offset	LWT	RWT	TWT	RWT	LWI	
Probe Depth (mm)	B/S	B/S	B/S	B/S	B/S	
Wet Density (t/m²)	2.32	226	2.55	235	230	
Dry Density (t/m²)	225	220	2.27	2.28	2.23	
Water Content (%)	3.0	2.9	2.8	29	3.1	
% of MDD	98	95	99	99	97	
% Saturation	37	32	36	39	36	

Oven Corrected Test Results NOT TESTED	Oven Corrected Test Results NOT TESTED		Dry Density (t/m²)	Water Content (%)	% of MDD	% Saturation	
Oven Corrected Test Results NOT TESTED	Oven Corrected Test Results NOT TESTED						
		Oven Corrected Test Results		NOT TESTED	The state of the s		

IANZ Approved Signatory

Institu Density I NZS 4407 | 2015, Test 4.3 for Backscatter Mode

Report No. "HA7753_VHMDD" (September 2021) MDD and Solid Density from WSP, Hamilton Lab

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Notes

Test Methods

Date: Designation.

18/01/22 Senior Civil Engineering Technician

COREDIPAO

accordance with the All tests reported herein have been performed in gogred/turbon laboratory's scope of

BE-TV9-011 LIA0/50501

Date reported:

18/01/22

Hamilton (Fox St)

Quality Management Systems Certified to ISO 9001

Website www.wsp.com/nz

4 Fox Street

Hamilton, New Zeeland

Private Bag 3057, Walkato Mall Centre, 3240,

Telephone +64 7 856 2870

Page 1 of 1

Greenhill Park Sample description: Project: TNZ M/4 AP40 ex Tauhei Quarry

Location: Watkins Road Nuclear densometer no: 33576

t/m³ Client: Online Contractors (2016) Ltd Solid density (tested): 2.75 t/m³ Online Contractors (2016) Ltd Max dry density (tested): 2.30 Contractor:

Tested by: C.Robertson, S.Cooke Opt. water content (tested): 5.0 %

Date tested: 02/03/22 Project No: 2-68015.00

Lab Ref No: HA8663_NDM

Client Ref No:

					Nuclea	r Densome	eter Test Re	esults			
Test Number	1	2	3	4	5						
Test Position	Ch30	Ch40	Ch50	Ch60	Ch70						
Offset	Left	Right	Left	Right	Left						
Probe Depth (mm)	B/S	B/S	B/S	B/S	B/S						
Wet Density (t/m³)	2.30	2.50	2.33	2.40	2.38						
Dry Density (t/m³)	2.23	2.42	2.24	2.29	2.28						
Water Content (%)	3.2	3.3	4.2	4.7	4.3						
% of MDD	97	105	97	99	99						
% Saturation	37	66	50	64	57						

			Ove	n Correcte	d Test Resu	Its			
Dry Density (t/m³)									
Water Content (%)				NOT T	ESTED				
% of MDD				14011	LSILD				
% Saturation									

Test Methods	Notes	
Insitu Density: NZS 4407: 2015, Test 4.3 for Backscatter Mode	Max dry density & Solid density from : WSP Hamilton Lab, Report ID:	
	HA7753_VHMDD (September 2021).	This report may only be reproduced in full

All tests reported herein have been performed in accordance with the

laboratory's scope of

accreditation

IANZ Approved Signatory

Senior Civil Engineering Technician Designation:

Date reported: 02/03/22

02/03/22 Date:

PF-LAB-037 (11/07/2020)

Page 1 of 1

WSP Hamilton (Fox St) Quality Management Systems Certified to ISO 9001 4 Fox Street

Private Bag 3057, Waikato Mail Centre, 3240,

Hamilton, New Zealand

Telephone +64 7 856 2870 Website www.wsp.com/nz



Project:

Greenhill-Stage 16

Location -

Road 3

Client:

Online Contractors (2016) Ltd Online Contractors (2016) Ltd

Contractor: Test method:

TNZ T/I 1977

Pavement type:

TNZ M/4 AP40

Pavement temp "C :

8.3 tonnes Weight on rear axle:

Tested by:

C.Robertson, J. Waru-Savage

Project No:

2-68015.00

Lab Ref No:

HA8456a

Client Ref :

		Test	Results
ocation		Deflections (mm)	
Metres	Left WT	Right WT	Comments
240	0.58		
230		0.60	" Concrete table.
220	0.60	200000	Section of the sectio
210		0.62	
200	0.74	22404	
190		1.10	
180		1.5-5-	
170		19	
160	0.40		
150		0.22	
140	0.44		
130		0.44	
120	0.46		
110		0.28	
100	0.60		
90		0.48	
80	0.48		
70		0.26	
60	0.44		
50		0.58	
40	0.50	5555	
30		0.54	
20	0.60		
10		0.30	
	0	62	90 Percentile calculated for all data in columns 1 to

Deflection Statistical Analysis [for all deflections]

Maximum (mm): 130.

Minimum (mm) - 0.22

Average (mm): 0.50

Note. Results in Italics have a difference between Intermediate and Final readings that are greater than 3 (refer TNZ T/I) 1977).

This report may only be reproduced in full

Date tested :

18/01/2022

Date reported :

18/01/2022

IANZ Approved Signatory

Designation:

Seniar Civil Engineering Technician

Date:

18/01/2022



All tests reported herein have been performed in accordance with the laboratory's scope of accreditation

PF-LAB-066 (20/06/2021)

Page T



Project:

Greenhill-Stage 16

Location:

Road 2

Client: Contractor: Online Contractors (2016) Ltd Online Contractors (2016) Ltd

Test method: Pavement type: TNZ T/I 1977 TNZ M/4 AP40

Pavement temp "C:

Weight on rear axle

Tested by:

8.3 tonnes C.Robertson, J. Waru-Savage

Project No: Lab Ref No: 2-68015.00 HA8456b

Client Ref:

			Test Results	
ocation		Defections (mm)		Comments
Metres	Luft WT	Right WT		
10		0.52		
20	0.60	5.57		
30		0.76		
40	0.52	1 3/577		
50		0.84		
60	0.48			
70		0.74		
80	0.54	U-35500		
90		0.64		
100	0.48	17 45 1970 75		
no		0.70		
120	0.50			
130		0.52		
190	0.36	0.00		
- 1				
_	-0	75	90.5	Percentile calculated for all data in columns 1 to

Deflection Statistical Analysis (for all deflections)

Maximum (mm) 0.84

Minimum (mm): 0.36

Average (mm): 0.59

Note: Results in italics have a difference between Intermediate and Final readings that are greater than 3 (refer TNZ T/I 1977)

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Date tested :

18/01/2022

Date reported

18/01/2022

IANZ Approved Signatory

Designation:

Senior Civil Engineering Technician

Date:

18/01/2022



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FF-LAB-066 (2)/08/2021

Page 1

BENKELMAN BEAM



Project:

Greenhill-Stage 16

Location:

Road 4

Client: Contractor:

Online Contractors (2016) Ltd Online Contractors (2016) Ltd

Test method: Pavement type: TNZ T/I 1977 TNZ M/4 AP40

Pavement temp °C:

Weight on rear axle Tested by:

8.3 tonnes

C.Robertson, J. Waru-Savage

Project No: Lab Ref No : 2-68015.00 HA8456c

Client Ref :

		Test	Results
ocation		Deflections (mm)	Comments
Motes	Let WT	Right WT	Contributes
280	0.44		
270		0.48	* Concrete table.
260	0.42	600	
250		0.54	
240	0.44		
230		0.48	
220			
210		0.88	
200	0.74		
190		0.80	
180	1.04		
170		1.02	
160	136		
- 1			
- 1			
- 1			
- 1			
		34	90 Percentile calculated for all data in columns 1 to

Deflection Statistical Analysis (for all deflections)

Maximum (mm): 1.36

Minimum (mm): 0.42

Average (mm): 0.72

Note: Results in Italics have a difference between Intermediate and Final readings that are greater than X (rafer TNZ T/I 1977).

This report may only be reproduced in full

Date tested:

18/01/2022

Date reported

18/01/2022

IANZ Approved Signatory

Designation:

Senior Civil Engineering Technician

Date

18/01/2022

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FF-LAB-066 (2)/06/2021)

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Page 1



Project: Greenhill- Stage 16

Location : Road 2a

Client : Online Contractors (2016) Ltd Contractor : Online Contractors (2016) Ltd

Test method : TNZ T/I 1977
Pavement type : TNZ M/4 AP40

Pavement temp *C: -

Weight on rear axie: 8.3 tonnes

Tested by: C.Robertson, J. Waru-Savage

Project No:

2-68015.00

Lab Ref No:

HA8456d

Client Ref

			Test Results		
ocation		Deflections (mm	0	Comments	135
Adetres	Left WT	Right WT		Cornmonts	
20	0.80				
30		0.66			
40	0.60	11.5945.17			
50		0.56			
60	0.64	A 100 A 100			
	77	74	90	Percentile calculated for all data in	columns The

Deflection Statistical Analysis (for all deflections)

Maximum (mm): 0.80 Minimum (mm) - 0.56 Average (mm): 0.65

Note. Results in Italics have a difference between Intermediate and Final readings that are greater than 3 Irefer TNZ T/I 1977).

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Date tested : 18/01/2022 Date reported 18/01/2022

IANZ Approved Signatory

Designation Senior Civil Engineering Technician

Date 18/01/2022

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PF-LAB-056 (Z1/06/2021)

Page 1

WSP

Hamilton (Fox 5t)

Quality Management Systems Certified to ISO 9001

4 Fax Street

Private Bag 3057, Wwikato Mail Centre, 3240, Hamilton, New Zealand Telephone +64 7-856 2870 Webside www.wsp.com/nit



Project:

Greenhill-Stage 16

Location -

Road 3

Client:

Online Contractors (2016) Ltd Online Contractors (2016) Ltd

Contractor: Test method:

TNZ T/I 1977

Pavement type:

TNZ M/4 AP40

Pavement temp "C :

8.3 tonnes Weight on rear axle:

Tested by:

C.Robertson, J. Waru-Savage

Project No:

2-68015.00

Lab Ref No:

HA8456a

Client Ref :

		Test	Results
ocation		Deflections (mm)	
Metres	Left WT	Right WT	Comments
240	0.58		
230		0.60	" Concrete table.
220	0.60	200000	Section Control of the Control of th
210		0.62	
200	0.74	22404	
190		1.10	
180		1.5-5-	
170		19	
160	0.40		
150		0.22	
140	0.44		
130		0.44	
120	0.46		
110		0.28	
100	0.60		
90		0.48	
80	0.48		
70		0.26	
60	0.44		
50		0.58	
40	0.50	5555	
30		0.54	
20	0.60		
10		0.30	
	0	62	90 Percentile calculated for all data in columns 1 to

Deflection Statistical Analysis [for all deflections]

Maximum (mm): 130.

Minimum (mm) - 0.22

Average (mm): 0.50

Note. Results in Italics have a difference between Intermediate and Final readings that are greater than 3 (refer TNZ T/I) 1977).

This report may only be reproduced in full

Date tested :

18/01/2022

Date reported :

18/01/2022

IANZ Approved Signatory

Designation:

Seniar Civil Engineering Technician

Date:

18/01/2022



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PF-LAIR-066 (21/06/2021)

Page T



Project:

Greenhill-Stage 16

Location:

Road 2

Client: Contractor: Online Contractors (2016) Ltd Online Contractors (2016) Ltd

Test method: Pavement type: TNZ T/I 1977 TNZ M/4 AP40

Pavement temp "C:

Weight on rear axle

Tested by:

8.3 tonnes C.Robertson, J. Waru-Savage

Project No: Lab Ref No: 2-68015.00 HA8456b

Client Ref:

			Test Results	
ocation		Defections (mm)		Comments
Metres	Luft WT	Right WT		
10		0.52		
20	0.60	5.57		
30		0.76		
40	0.52	1 3/577		
50		0.84		
60	0.48			
70		0.74		
80	0.54	University of the second		
90		0.64		
100	0.48	17 45 1970 75		
no		0.70		
120	0.50			
130		0.52		
190	0.36	0.00		
- 1				
_	-0	75	90.5	Percentile calculated for all data in columns 1 to

Deflection Statistical Analysis (for all deflections)

Maximum (mm) 0.84

Minimum (mm): 0.36

Average (mm): 0.59

Note: Results in italics have a difference between Intermediate and Final readings that are greater than 3 (refer TNZ T/I 1977)

This report may only be reproduced in full

Date tested :

18/01/2022

Date reported

18/01/2022

IANZ Approved Signatory

Designation:

Senior Civil Engineering Technician

Date:

18/01/2022



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FF-LAB-066 (2)/08/2021

Page 1

BENKELMAN BEAM



Project:

Greenhill-Stage 16

Location:

Road 4

Client: Contractor:

Online Contractors (2016) Ltd Online Contractors (2016) Ltd

Test method: Pavement type: TNZ T/I 1977 TNZ M/4 AP40

Pavement temp °C:

Weight on rear axle Tested by:

8.3 tonnes

C.Robertson, J. Waru-Savage

Project No: Lab Ref No : 2-68015.00 HA8456c

Client Ref :

		Test	Results
ocation		Deflections (mm)	Comments
Motes	Let WT	Right WT	Contributes
280	0.44		
270		0.48	* Concrete table.
260	0.42	600	
250		0.54	
240	0.44		
230		0.48	
220			
210		0.88	
200	0.74		
190		0.80	
180	1.04		
170		1.02	
160	136		
- 1			
- 1			
- 1			
- 1			
		34	90 Percentile calculated for all data in columns 1 to

Deflection Statistical Analysis (for all deflections)

Maximum (mm): 1.36

Minimum (mm): 0.42

Average (mm): 0.72

Note: Results in Italics have a difference between Intermediate and Final readings that are greater than X (rafer TNZ T/I 1977).

This report may only be reproduced in full

Date tested:

18/01/2022

Date reported

18/01/2022

IANZ Approved Signatory

Designation:

Senior Civil Engineering Technician

Date

18/01/2022

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FF-LAB-066 (2)/06/2021)

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Page 1



Project: Greenhill- Stage 16

Location : Road 2a

Client : Online Contractors (2016) Ltd Contractor : Online Contractors (2016) Ltd

Test method : TNZ T/I 1977
Pavement type : TNZ M/4 AP40

Pavement temp *C: -

Weight on rear axie: 8.3 tonnes

Tested by: C.Robertson, J. Waru-Savage

Project No:

2-68015.00

Lab Ref No:

HA8456d

Client Ref

			Test Results		
ocation		Deflections (mm	0	Comments	135
Adetres	Left WT	Right WT		Cornmonts	
20	0.80				
30		0.66			
40	0.60	11.5945.17			
50		0.56			
60	0.64	A 100 A 100			
	77	74	90	Percentile calculated for all data in	columns The

Deflection Statistical Analysis (for all deflections)

Maximum (mm): 0.80 Minimum (mm) - 0.56 Average (mm): 0.65

Note. Results in Italics have a difference between Intermediate and Final readings that are greater than 3 Irefer TNZ T/I 1977).

This report may only be reproduced in full

Date tested : 18/01/2022 Date reported 18/01/2022

IANZ Approved Signatory

Designation Senior Civil Engineering Technician

Date 18/01/2022

IAME LABORRO

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PF-LAB-056 (Z1/06/2021)

Page 1

WSP

Hamilton (Fox 5t)

Quality Management Systems Certified to ISO 9001

4 Fax Street

Private Bag 3057, Wwikato Mail Centre, 3240, Hamilton, New Zealand Telephone +64 7-856 2870 Webside www.wsp.com/nit

Project : Greenhill Park Location : Watkins Road

Client : Online Contractors (2016) Ltd
Contractor : Online Contractors (2016) Ltd

Test method: TNZ T/1 1977
Pavement type: TNZ M/4 AP40

Pavement temp °C: -

Weight on rear axle: 8.3 tonnes

Tested by: C.Robertson, S.Cooke

wsp

Project No: 2-68015.00 Lab Ref No: HA8663_Beam

Client Ref:

				Test Results	
Location		Deflection	ons (mm)		
Metres	Left	Right			Comments
30	1.06				Ch30 approx 1m in from seal edge, Watkins Rd
40		0.62			
50	0.68				
60		0.76			
70	0.48				
	0.9	24			90 Percentile calculated for all data in columns 1 to 2.
	0.5	/ ¬			70 Forestrine calculated for all data in coldiffins 1 to 2.

Deflection Statistical Analysis (for all deflections)

Maximum (mm): 1.06 Minimum (mm): 0.48 Average (mm): 0.72

Note: Results in italics have a difference between Intermediate and Final readings that are greater than 3 (refer TNZ T/11977).

This report may only be reproduced in full

Date tested : 2/03/2022 Date reported : 2/03/2022

IANZ Approved Signatory

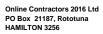
Designation : Senior Civil Engineering Technician

Date: 2/03/2022

ACCREDIZES

All tests reported herein have been performed in accordance with the laboratory's scape of accreditation

PF-LAB-066 (21/06/2021) Page 1





			CONSTR	CUCTION	DIMENSIO	<u>ons</u>			
Contract		Greenhil	l		Job No.				-
Site	Road 1 16				Date	25/01	/2022		4
Stage					ecorded by	Emil Ka	arlsson		4
/laterial		TNZ40			Subgrade	e TNZ F/1 tolerance	-20 mm	<u>0</u> mm	
					Subbase	e TNZ B/2 tolerance	-25 mm	<u>5</u> mm	
String lift	200	_mm			Base	course TNZ B/2 tol.	<u>-5</u> mm	<u>15</u> mm	
					w stringline level				1
Chn.	Edge 6m	Left 4m	2m	Left 0m	Centre Right 0m	2m	Right 4m	Edge 6m	Off
20			235	240		245			-
30			240	240		235			4
40			230	235		240			4
50			235	235		245			-
60			240	240		235			-
70			235	235		245			4
80			240	245		240			1
90			235	240		235			-
100			235	245		240			-
110			235	235		230			-
120			235	245		230			1
									1
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P O Box 21187

CONSTRUCTION DIMENSIONS Job No. Ghp Site Date 18/01/2022 Stage Recorded by Emil Karllsson Material Tnz40 Subgrade TNZ F/1 tolerance -20 mm 0 mm Subbase TNZ B/2 tolerance -25 mm <u>5</u> mm String lift mm Basecourse TNZ B/2 tol. <u>-5</u> mm 15 mm Depth below stringline level Left Right Right Edge 4m



P O Box 21187 Rototuna Hamilton, 3256 Ph: 07 853 9422

11		nunu	ncolon un	u cumaini	IT LIAM			
			CONSTR	RUCTION I	DIMENSIO	NS		
Contract		Ghp		Jol	b No.			
Site					·		01/2022	
Stage					rded by			
Material					grade TNZ F/1 tole		-20 mm	0 mm
				<u>-</u>	base TNZ B/2 toler		-25 mm	5 mm
String lift	200	-	mm	В	asecourse TNZ B/2	tol.	mm	15 mm
		Left			stringline level	1	Right	
Chn.	Edge 6m	4m	2m	Left 0m	Right 0m	2m	4m	Edge 6m
20			235	240		240		
30			240	235		240		
40			240	240		240		
50			235	240		240		
	1	+	.	+	+	+	+	+



P O Box 21187 Rototuna Hamilton, 3256 Ph: 07 853 9422

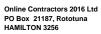
Contract		Ghp		Jo	b No			
Site	Road 3 Date				18/0	18/01/2022		
Stage	16			Reco	rded by	Emil I	Karlsson	
Material		Tnz40		Sub	ograde TNZ F/1 tole	rance	0 mm0 mm	
				Sul	bbase TNZ B/2 tole	rance	<u>-25</u> mm	<u>5</u> mm
String lift	200		mm	В	asecourse TNZ B/2	tol.	<u>-5</u> mm	<u>15</u> mm
					stringline level	•		
	Edge	Left	1	Left C	entre Right		Right	Edge
Chn.	6m	4m	2m	0m	0m	2m	4m	6m
230			230	225		225		
220			225	230		225		
210			230	225		230		
200			225	225		225		
190			230	230		23		
180			225	235		230		
170			Table	Table		Table		
160			235	235		235		
150			235	235		235		
140			235	235		235		
130			230	230		230		
120			235	230		235		
110			240	230		235		
100			230	230		240		
90			230	230		240		
80			235	225		230		
70			235	230		235		
60			235	230		235		
50			235	230		230		
40			235	235		235		
30			230	230		240		
20			235	230		240		
10			230	230		230		

Strings Page 1



P O Box 21187 Rototuna Hamilton, 3256 Ph: 07 853 9422

11								
			CONSTR	RUCTION I	DIMENSION	<u> </u>		
Contract		Ghp		Jol	b No			
Site		Road 4		D	ate	18/0	1/2022	
Stage	16			Reco	rded by	Emil k	arlsson	
Material		Tnz40		Sub	grade TNZ F/1 toler	ance	-20 mm	<u>0</u> mm
				Sub	base TNZ B/2 tolera	ance	-25 mm	<u>5</u> mm
String lift	200	-	mm	Ва	asecourse TNZ B/2 t	tol.	<u>-5</u> mm	<u>15</u> mm
·		Left			stringline level		Right	
Chn.	Edge 6m	4m	2m	Left 0m	Right 0m	2m	4m	Edge 6m
170			230	225		225		
180			230	225		235		
190			235	230		230		
200			225	230		230		
210			225	235		230		
220			Table	Table		Table		
230			230	230		230		
240			240	230		235		
250			230	225		230		
260			230	225		235		
270			230	225		230		
		1		1	i	1		





ontract				<u>.</u>	Job No.			
ite		Watkins			Date	1/03/2	2022	
tage		16		R	ecorded by	Jordan	Allen	
laterial		TNZ40			Subgrade	TNZ F/1 tolerance	<u>-20</u> mm	<u>0</u> mm
					Subbase	TNZ B/2 tolerance	-25 mm	<u>5</u> mm
tring lift	200	mm			Based	course TNZ B/2 tol.	<u>-5</u> mm	<u>15</u> mm
		Left			v stringline level Centre	T	Right	
Chn.	Edge 6m	4m	2m	Left 0m	Right 0m	2m	4m	Edge 6m
10			240	240		245		
20			240	240		235		
30			235	235		240		
40			240	240		240		
50			240	240		240		
60			240	230		235		
70			240	240		240		
	1				1			
					1			

Strings Page 1



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Ph: 07 853 9422

COMPACTION - CLEGG TESTS

Contract	Stage 1	6 ghp	Job No.	
Site/Chainage _	Road	d 1	Date	20/01/2022
			Recorded by	Jordan Allen
Material _	Tnz	40	_	
-				
Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
20	53	<u> </u>		
30		59		
40		<u> </u>	46	
50	42		<u> </u>	
60		53		
70			54	
80	58	<u> </u>	<u>T</u>	
90		52		
100		<u> </u>	50	
110	56	<u> </u>		
120		41		
			1	
			1	
			+	
		<u> </u>		
		<u> </u>		
		<u> </u>		
			+	
			_	1
Source of conve	ersion: Inferred CBR%	%=0.07(Impact Va	alue) ² /100	
Remarks _				
<u>-</u>				

Clegg Sheet Road 1.xlsx Page 1



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Ph: 07 853 9422

COMPACTION - CLEGG TESTS

Contract	Stage 10	6 Ghp	Job No.	-
Site/Chainage _	Road	d 2	Date	20/01/2022
			Recorded by	Jordan Allen
Material _	Tnz	40	_	
-				
Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
10	54			
20		62		
30			61	
40	49			
50		56		
60			39	
70	63			
80		58		
90			47	
100	53			
110		50		
120			49	
130	51			
		<u> </u>		
		<u> </u>		
1				
		 I		
		 I		
			+	
			_	
Source of conve	ersion: Inferred CBR%	%=0.07(Impact Va	alue) ² /100	
Remarks _				
j <u>-</u>				

Clegg Sheet Road 2.xlsx Page 1



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COMPACTION - CLEGG TESTS

Naterial Road 2a Date Recorded by	20/01/2022 Jordan Allen
Tnz40 Tnz40 Chn	Jordan ∆llen
Tnz40 Tnz40 Chn	O O I dall 7 tiloli
20 62 Right 30 62 54	
20 62 Right 30 62 54	
30 62 40 54	Notes
40 54	
50 64	
Source of conversion: Inferred CBR%=0.07(Impact Value) ² /100	
Remarks	

Clegg Sheet Road 2A.xlsx Page 1



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COMPACTION - CLEGG TESTS

Contract	Stage 1	6 Ghp	Job No	
Site/Chainage	Road	d 3	Date	20/01/2022
			Recorded by	Jordan Allen
Material	Tnz	40	_	
-				
Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
10	42			
20		46		
30			51	
40	60	 		
50		63		
60		 	69	
70	54	 	T	
80		58		
90			49	
100	57			
110		48		
120		 	36	
130	39	 		
140		47		
150		 	52	
160	50	 		
170		43		
180		 	51	
190	63			
200		65		
210		<u>-</u>	60	
220	58			
230		56		
		_ 		
Source of conve	ersion: Inferred CBR%	~ %_0 07/Impact Vi	صاره) ² /100	
	TSIOH. IIIIGHOG OBIT,	0-0.07 (III)paol 10	1106) / 100	
Remarks				
-				

Clegg Sheet Road 3.xlsx Page 1



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COMPACTION - CLEGG TESTS

Contract	Stage 1	6 Ghp	Job No.	
Site/Chainage _	Road	d 4	Date	20/01/2022
			Recorded by	Jordan Allen
Material _	Tnz	40	_	
-				
Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
160	48			
170		51		
180		<u> </u>	62	
190	61		<u> </u>	
200		37		
210			42	
220	63	<u> </u>	<u>T</u>	
230		58		
240			52	
250	48			
260		51		
270			63	
		1		
		·		
		<u> </u>	1	
			1	
		<u> </u>	+	
		<u> </u>	1	
		<u> </u>		
		<u> </u>		
		<u> </u>	+	
		. <u> </u>	+	
Source of conve	ersion: Inferred CBR%	%=0.07(Impact Va	alue) ² /100	
Remarks _				
<u>-</u>				

Clegg Sheet Road 4.xlsx Page 1



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COMPACTION - CLEGG TESTS

Contract	GHp Sta	age 16	Job No.	
Site/Chainage _	Watk	ins	Date	1/03/2022
	_		Recorded by	Jordan Allen
Material _	Tnz	40	_	
-				
Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
10	65			
20		60		
30			55	
40	55	<u> </u>		
50		50		
60			62	
70	58	<u> </u>		
		<u> </u>		
				1
1				1
			+	
			+	
				+
		<u> </u>	+	†
			+	+
				+
Source of conve	ersion: Inferred CBR%	%=0.07(Impact Va	alue) ² /100	
Remarks				
- i -				

Clegg Sheet Watkins.xlsx Page 1

CRUSHING RESISTANCE OF COARSE AGGREGATE TEST REPORT



Project: Quality Assurance

Location : Stockpile

Client: Online Contractors (2016) Ltd

Contractor:

Sampled by: C.Robertson (WSP)

10/08/21 Date sampled :

NZS4407:2015 2.4.6.3.2 Sampling method:

Sample description : TNZ M/4 AP40

Sample condition : Moist

Tauhei Quarry Source:

Project No: 2-68015.00 Lab Ref No: HA7753_CR

Client Ref No:

	Test Results	
Nominal size of aggregate (mm):	15.2-9,5	
Specified load (kN):	130	
Percentage of fines (passing 2.36 mm) achieved at specified load :	4.8	
Crushing resistance to produce 10% fines greater or less than specified load :	Greater than specified load	

Test Methods

NZS 4407 : 2015, Test 3.10

Date tested: 16/08/21 Date reported: 21/09/21 Sampling is covered by IANZ Accreditation This report may only be reproduced in full

IANZ Approved Signatory

Senior Civil Engin Designation:

Date: 21/09/21

ering Technician



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Hamilton (Fex St)

PF-LASI-046 (DVD7/2020)

Quality Management Systems Certified to (50 900)

Private Bag 3057, Walkato Mail Centre, 3240, Hamilton, Now Zealand

Telephone +64 7 856 2870 Website www.vsp.com/nz.

TNZ M/4 : 2006 AP40 TEST REPORT

Project :

Quality Assurance

Location:

Stockpile

Client

Online Contractors (2016) Limited

Contractor:

- 33

Sampled by: C

C. Robertson (WSP Hamilton Lab)

Date sampled :

10/08/21

Sampling method :

NZS4407:2015, 2.4.6.3.2

Sample condition : Moist

Sample description : TNZ M/4 AP40

Source:

Tauhei Quarry

Project No :	2-68015.00
Lab Ref No:	HA7753_SA
CRITICAL DISTRICT	

Client Ref No:

Sieve Size	Percentage Passing		
(mm)	Sample	Limits	
63.0		100 - 100	
37.5	100	100 - 100	
19.0	74	66 - 81	
9.5	49	43 - 57	
4.75	34	28 - 43	
2.36	22	19 - 33	
138	14	12 - 25	
0.600	9	7.19	
0.300	7	3 - 14	
0.150	5	0.10	
0.075	4	0.7	

Gradin	g Shape Co	ntrol
Fraction	96 Within	Fraction
(mm)	Sample	Limits
19.0 - 475 9.5 - 2.36 4.75 - 118 2.36 - 0.600 118 - 0.300 0.600 - 0.150	40 27 20 13 7 4	28 - 48 14 - 34 7 - 27 6 - 22 5 - 19 2 - 14

Crushing	Resistance		П
% Fines @ Spec. Load	+	.96	
Specification:		96	
Clushing Resistance	17.2	kN	
Nom Aggregate Size		mm	
Specified Load		kN	

Fraction	Percentage by Weight	
(mm)	Sample	Lower Limit
37.5 - 19.0	1520	70
19.0 - 9.5	13.57	70
95-475	3.0	70

Plasticity Index		
Sample PI Specification	-	
Specification	4+5	

Clay Index		
Sample Cl Specification	- 10 - 150	
Specification	e-3	

Sand Equivalent (Washed, Mechanical Shaking)		
Sample SE		
Specified	2440	





Date tested : Date reported : 13/08/21 13/08/21 Sampling is covered by IANZ Accreditation his report may only be reproduced in full

IANZ Approved Signatory

Designation : Date : Seniar Civil Engineering Technician

13/08/21

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WSP

Hamilton (Fox 5t)

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Private Bag 3057, Walketo Mall Centre, 3240, Hamilton, New Zealand

SOLID DENSITY OF AGGREGATE PARTICLES TEST REPORT



Project:

Quality Assurance

Location:

Stockpile

Client:

Online Contractors (2016) Limited

Contractor:

Sampled by:

C. Robertson (WSP Hamilton Lab)

Date sampled:

10/08/21

Sampling method :

NZS 4407:2015 Method 2.4.8.3

Sample description : Sample condition:

TNZ M/4 AP40

Source :

Moist

Tauhei Quarry

Project No:

2-68015.00

Lab Ref No:

HA7753_SD

Client Ref No:

Test Results

Fraction Tested:

Retained 4.75mm sieve

Coarse Fine Composite Solid Density (t/m*): 2.75

Test Method	Notes	
NZS 4407 : 2015 test 3.7.2 - Immersion method for coarse aggregate		

Date tested:

21/09/21

Sampling is covered by IANZ Accreditation

Date reported: 21/09/21

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IANZ Approved Signatory

Designation:

Senior Civil Engineering Technician

Date -

21/09/21

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Harrylton (Fox 5t)

Quality Management Systems Certified to ISO 9001

Private Bag 3057, Walkato Mall Centre. 3250, Hamilton, New Zealand

Telephone +64 7 856 2870 Website www.wsp.com/nz

SAND EQUIVALENT TEST REPORT



Project:

Quality Assurance

Location:

Stockpile

Client:

Contractor:

Online Contractors (2016) Limited

Sampled by:

C. Robertson (WSP Hamilton Lab)

Date sampled :

10/08/21

Sampling method: NZS4407:2015, 2.4.6.3.2

Sample condition :

Sample description: TNZ M/4 AP40

Moist

Source:

Tauhei Quarry

Project No:

2-68015.00

Lab Ref No:

HA7753_SE

Client Ref No:

Test Results		
Client Ref. No	*	
Sand Equivalent :	47	
Method of shaking :	Mechanical	
Method of preparation	Washed	

Test Method

NZS 4407 : 2015, Test 3.6

Date tested :

21/09/21

Sampling is covered by IANZ Accreditation

Date reported:

21/09/21

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IANZ Approved Signatory

Designation :

Seniar Civil Engineering Technicias

Date:

21/09/21

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Quality Management Systems Certified to ISO 9001

4 Fox Street

Private Bag 5057, Walkato Mall Centre, 3240, Hamilton, New Zealand

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Telephone +64 7 856 2870 Website www.wsp.com/nz.

CALIFORNIA BEARING RATIO (REMOULDED) TEST REPORT



Project: Quality Assurance

Location: Stockpile

Client: Online Contractors (2016) Limited

Contractor:

C. Robertson (WSP Hamilton Lab) Sampled by:

10/08/21 Date sampled :

NZS 4407:2015 Method 2.4.6.3.2 Sampling method:

Sample description : See below Sample source : Stockpile

Project No: 2-68015.00 Lab Ref No: HA7753 VCBR

Client Def No.

Comp 6	Contract Con-	100	4 (3)	w-	

		Test Results
Lab Ref No.:		HA7753 VCBR
Client Ref No.:		
Sample source :		Stockpile
Sample origin:		Tauhei Quarry
Sample description		TNZ M/4 AP40
Sample condition at comp	action :	As received
Sample condition as tested		Soaked
Curing time:	days	N4
Soaking time :	days	4
Passing 19mm:	96	74
Surcharge mass :	kg	4
Lime additive :	96 96	N. C. C. C. C. C. C. C. C. C. C. C. C. C.
Cement additive	96	
Swell:	96	0
Water content as received	96	4,8
Water content as compact	ed 96	4.6
Water content after testing		6
Dry Density :	t/m²	2.06
Penetration of CBR	mm	5
CBR value :	96	155

est Methods		Notes	
CBR	NZ5: 4407: 2015: 3.15	Material Used	Passing 19mm sieve
Water Content	NZS:4407:2015:33	Rate of penetration	Imm/min
Compaction	NZ5:4402:1986:413 (Vibratory)	CS-21 (ASS 1924-1927A) AL	

Sampling is covered by IANZ Accreditation This report may only be reproduced in full

Date tested: 10/09/21 Date reported: 21/09/21

IANZ Approved Signatory

Designation | Senior Civil Engineering Technician

Date: 21/09/21



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Hamilton (Fax St)

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Telephone +64 7 856 2870 Website www.wsp.com/nz

DRY DENSITY / WATER CONTENT RELATIONSHIP VIBRATING COMPACTION



Project : Quality Assurance

Location: Stockpile

Client : Online Contractors (2016) Limited

Contractor:

Sampled by: C.Robertson (WSP Hamilton Lab)

Date sampled: 10/08/21

Sampling method: NZS 4407;2015,24.6.3.2

Sample description: TNZ M/4 AP40

Sample condition: Moist

Solid density: 2.75 t/m³ (Tested)

Source: Tauhei Quarry

Project No: 2-68015.00

Lab Ref No: HA7753_VHMDD

Client Ref No :

2.320				T	est Results				
Sample ID	Maximum dry density	2.	30 t	/m²		Natural wat	er content	3.9	96
Bulk density 1/m² 2.303 2.303 2.409 2.428 2.399 Water content 96 3.2 3.9 4.8 5.9 6.5 Dry density 1/m² 2.230 2.217 2.298 2.294 2.252 Sample condition Moist Moist Wet Wet Saturated Med Dense Med Dense Med Dense Loose Compaction Curve 2.340 2.320	Optimum water conte	int	5 9	6		Fraction tes	ted	<37.5 mn	n
Water content 96 3.2 3.9 4.8 5.9 6.5	Sample ID	- 1 -	50	Nat	60	120	180		-
Dry density 1/m² 2.230 2.217 2.298 2.294 2.252	Bulk density t/	m ² 2.3	03	2.303	2.409	2,428	2.399		
Sample condition Moist Moist Wet Wet Saturated Loose 2.340 Compaction Curve Density Compact Av Vo. 10% Air Vo.	Water content 9	% 3	2	3,9	4.8	5.9	6.5		
2.340 2.320 2.300 2.300 2.260	Dry density t/I	m 2.2	30	2.217	2.298	2.294	2.252		
2.340 2.320 2.300 2.300 2.360 2.260	Sample condition	M	olst	Moist	Wet	Wet	Saturated		
2.320 2.300 2.300 2.360 2.260	RESOURCE - ALVESTED	Med	Dense N	#ed Dense	Med Dense	Med Dense	Loose		
2.320 2.300 2.300 2.280 5 2.260	2 240				Compaction	n Curve			
2.320 2.300 2.300 2.300 2.260	2,590			1			1		Density Carr
2.300 2.300 5 2.260				1	5			1 1 2 2	- US As York
2.300 2.280 2.260	2.320								2% Av Volds
2.280					1				10% Air Veld
6 / / / /	2.300	_		_	**				57657775511
	Professional Contraction of the				/ /	*			
6 / / / /	È 2.280						1		
6 / / / /	D D	1		/		1			
	E .	100		/		1			
	5 2.260		V			1	1		
2,240	5		1			1			
	2.240	-	1	1		- 27	1		

Test Methods	NAME OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OF THE OWNER OWNER OF THE OWNER OWNE	Notes
Compaction	NZS 4402 : 1986 : Test 43.5	Solid density from report HA7755_50

Water Content 96

Date tested | 16/08/21 Date reported : 21/09/21

Sampling is covered by IANZ Accreditation This report may only be reproduced in full

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Designation: Senior Civil Engineering Technician

3

Date : 21/09/21

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PF-LAB-027 (10/07/20)

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WSP Hamilton (Fux St)

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WEATHERING QUALITY OF COARSE AGGREGATE TEST REPORT



Project: Quality Assurance

Location: Stockpile

Client : Online Contractors (2016) Limited

Contractor:

Sampled by: C Robertson (WSP Hamilton Lab)

Date sampled: 10/08/21

Sampling method : NZS 4407:2015:2.4.6.3.2

Sample description : TNZ M/4 AP40

Sample condition : Moist

Source: Tauhei Quarry

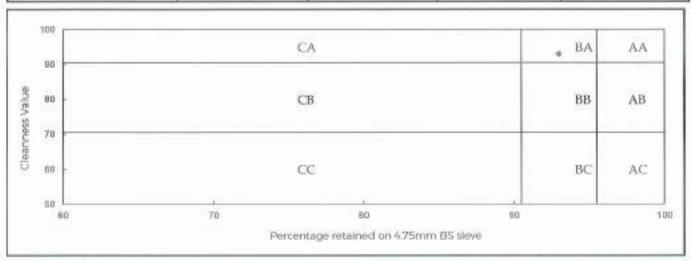
Project No : 2-68015.00 Lab Ref No : HA7753 WQI

Client Ref No:

Test Results

Percentage Retained on 4.75mm BS Sieve After 10 Cycles 93
Cleanness Value After 10 Cycles 93
Weathering Quality Index (see table below) BA

	Percenta	ge Retained on 4.75n	nm Sieve	
Cleanness Value	96 - 100	91 - 95	up to 90	Specified
91-100	AA	BA	CA	TNZ M/4 2006
71 - 90	AB	BB	CB	AA, AB, AC
up to 70	AC	BC	CC	BA, BB, CA



Test Method	Notes
Weathering Quality Index, NZS 4407:2015, Test 3.11	 Is graphed value of Weathering Quality Index.

Date tested: 15/09/21 Date reported: 21/09/21 Sampling is covered by IANZ Accreditation This report may only be reproduced in full

IANZ Approved Signatory

Designation: Senior Civil Engineering Technician

Date: 21/09/21

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APPENDIX 2(d)

Roading QA Documentation

Surfacing & RAMM Data

- HCC pavement RAMM data
- Surfacing RAMM data

(to be completed for each road section)

Subdivision	GREENHILL PARK - STAGE 16
Road No / Name	CHILMAN TERRACE (ROAD 1)
Ştart m	20 m Start Description CARRS RD ROUNDABOUT
End m	120 m. End Description ROAD ZA (EART CRESCENT
Width	7m (Kerb foce to Kerb foce)
Basecourse	
Date Completed	20-1-2027
Thickness	150 mm
Grading	TNZ- M/4 AP40
Quarry	STEVENOWS TAUNE
Sub-Base	
Date Completed	13-1-2022
Thickness	200mm
Grading	WHAP 65
Quarry	TAUHEI
Undercut / Imported S	Subgrade (If Required)
Whole Site	Yes: No
Length	100 m
Wigth	8 m
Depth	0.5 m.
Backfol Material	BLUE/TSROWN ROCK
Subgrade CBR With Stabilisation	out 15
Material	
Stabilised?	No / Cement / Lime
% Slabilising Agent	
Stabilised Depth	
Stabil sed CBR	

(to be completed for each road section)

Subdivision	GRENHILL	FARK -	STAGE	16
Ruad No / Name	ROAD ZA	EARP G	ZEXENT	
Start in	70m	Start Description	CHILMAN	TERRACE
End to	50m	End Description	STEED	TABLE
Width	5.5 m Ctarb	face to Vertic	cal N'L fac	e>
Basocourse				
Date Completed	ZO-1- Z	022_		
Thickness	230 mm			
Grading	TNZ M/4	AP40		
Quarry	TAUHE			
Sub-Base				
Date Completed	NIL			
Thickness				
Gred og				
Quarry				
Undergut / Imported	1 Subgrade (If Required)			
Whole Site	(Yes) No			
Length	50m			
Width	6.5 m			
Depth	C.5n	1		
Backfill Material	BLUE/ BRO	WN Pock		
Subgrade CBR <u>W</u> Stobilisation	ithout 15			
Material				
Stabilised?	No / Cement / L	ina		
9. Stabilising Agent				
Stabilised Depth				
Stabilised CBR				

(to be completed for each read section)

Subdivision	STREENHILL PARK- STAGE 16	
Road No (Name	ROAD Z EARP GRESCENT	
Startim	10 m Start Description SPEED TABLE ROAD ZA IN	Τ.
End ···	130 End Description SPEED TABLE ROAD 4 INT	۲,
Widtn	5.5m (Kents face to face of vartadinis)	
Basocourse		
Date Completed	20-1-2011	
Thickness	730 mm	
Grading	TNZ M/4 AP40	
Quarry	TAUHE	
Sub-Base		
Date Completed	NIL	
Thickness		
Grading		
Quarry		
Undercut / Imported \$	(bgrade (If Required)	
Yvhole Site	(es). No	
Length	130	
Width	6.5m.	
Depth	0.5m	
Backfill Mater air	BLUE/BROWN Rock	
Subgrade CBR <u>Witho</u> Stubilisation	ut 15	
Material		
Stabilised?	No / Cement / Lime	
% Stabilising Ayent		
Stabilised Depth		
Stabilised CBR		

(to be completed for each road section)

Subdivision	GREENHILL PARK - STAGE 16
Road No.: Name	ROAD 3 MUSSEL WHITE TERRACE
Start m	10 M Start Description ROAD ZA SPEED TABLE
End m	230m End Description Road 4 SPEED TABLE
Widto	5.5 m. Kerb free to kerb face
Basecourise	
Date Completed	20-1-2022
Trickness	230 mg
Grading	TNZ MI4 AP40
Quarry	TAHEL
Sub-Base	
Date Completed	NIL
Thickness	
Greeing	
Charry	
Undercut / Imports	f Subgrade (ff Required)
V/hole Site	(Yes): Yu
Length	7.20 m
Width	6.5m
Depr	0.54
Dackfill Mideral	BUE/BROWN ROCK
Subgrade CBR V Stabilisation	ithout 15
Material	
Stab*ised*	Not Cement / Lime
% Stabilishig Agent	
Stabilised Dapit	
Sessiberal CER	

(to be completed for each road section).

Subdivision	GREENHILL PARK - STAGE 16
Road No / Name	"ROAD 4 COGAR TERRACE
Startin	160m Start Description 40° BENTO LOT 512
End m	270 m End Description STECO TABLE ROAD?
Was	5.5 m (Fob face to keep face)
Basecourse	
Date Complekxt	20-1-2022
Trickness	230mg
Grading	TNZ M/4 AT40
Quarry	TAHEL
Sub-Base	
Date Completed	N1
Thickness	
Greeing	
Quarry	
Undercut / Imported	Subgrade (If Required)
Whole Site	(Yes): No
Length	# /IOm
Wide	6.5m
Depth	0.5m
Backfill Material	BLUE/ BROWN ROCK
Subgrade CBR Wi Stooilisolon	thout
Material	
Stephise(17	No 7 Cernors a Lime
% Stabiliang Agent	
Stablished Depth	
Stabilised CER	

(to be completed for each road section)

Saintreach	GREENHILL PARK - STAGE 16
Road No / Name	WATKINS ST
Start m	10 kg Start Description Tie m Existing Street
Ending	70 m End Description Speed table Roso 3
Width	5.5m (Kerb foce to Kerb foce)
Basecourse	
Date Completed	1-3-2022
Thickness	230 mg
Grading	TUZ M/4 AP40
Quarry	TAUNEL
Sub-Base	
Date Completed	NIL
Thickness	
Grading	
Quarry	
Undercut / Imported	Subgrade (If Required)
Whole Site	Yes Y No
Length	- 60 m
Width	6.5 m
Depth	0.5m
Backfill Material	BLUE BROWN ROCK
Subgrade CBR With Stabilisation	hout
Material	
Stapilise4?	No / Gement / time
% Stabilising Agent	
Stabilised Depth	
Stapilised CBR	

F3.8 RAMM CHIPSEAL DATA

(to be completed for each seal layer on each road section)

Supply (13/55) M.	
Road No / Name 5-1019	16
Start m	Start Description end of seal
End m	End Description and of sead
Width 5.1	
Contractor	Online Contractors 2016 Ltd
Date of Work	28-01-22
Seal Type (circle one)	1 Coat / Racked in Chipseal / 2 Coat / Other:
Seal Reason	Waterproofing First Coat / Second Coat Asphalt Membrai
Area Sealed (m²)	2524 m2
Chip Grading (e.g. 3/5)	Us membriane
Binder Type (e.g. B180/200)	cas-2 Emulsico.
Chip Source Company	J. SWAP
Chip Source Quarry	Tetogoov.
Total Volume of Binder Used (Hot)	
(Litres)	26 22 5 6 6
Temperature of Binder (°C)	5000
Residual Binder Rate (L/m²)	1.0 10.1
Cutter (e.g. 3 pph Kero)	Y
Other Additives with concentrations (e.g. Polymer modification RS1, 3%)	
Seeling Notes (e.g. (Mosther Torre)	asmost time which time
Surfacing Chip PSV testing form attached	ed 🙊

F3.7 RAMM ASPHALT DATA

(to be completed for each seal layer on each road section)

ubdivision	MARROWII	117	4			7
load No / Name	storal 16.	. 91				- 1
t		Start Description	end of seal			
mpu		End Description	end	of seal	· po	
Vidth	5.1			>		
contractor		Online Contractors 2016 Ltd				
Date of Work		01/02/2022				
sphalt Type (circle one)	one)	AC OGPA / SMA / Other	her			8
Srading (e.g. M/10 DG10)	G10)	400				
rea Surfaced (m²)		2524 m				
vverage thickness (mm)	(F)	34 mm				Ī
aying Temperature (°C) ack Coat Residual Application Rate Um²)	(°C) Application Rate	va membrane - Resideal 1.0c	Jano	1881	dual	1,06
Additional Notes (e.g. Weather, Temp, Polymer Modification)	. Weather, Temp,	Fine.				

F3.7 RAMM ASPHALT DATA

(to be completed for each seal layer on each road section)

Subdivision	Widowsen		
Road No / Name	stage 11.	**************************************	
Start m	_	Start Description	end of seal
End m		End Description	prior to roundabout
Width	7.5 m.	1.	
Contractor	On	Online Contractors 2016 Ltd	
Date of Work	0	02-02-2022	
Asphalt Type (circle one)	_	AC OGPA / SMA / Other	Φ,
Grading (e.g. M/10 DG10)	310)	ONTO	
Area Surfaced (m²)	L	814 m2	
Average thickness (mm)	3	42 000	4-41
Laying Temperature (°C) Tack Coat Residual Application Rate (L/m²)	olication Rate	igzoc	142°C
Additional Notes (e.g. Weather, Temp. Polymer Modification)	Weather, Temp.	Fine ·	

F3.8 RAMM CHIPSEAL DATA

(to be completed for each seal layer on each road section)

Subdivision	NREENHILL	1166	
Road No / Name	storale	16.	
Start m	7	Start Description and of sea	- 1
End m		End Description	parties to Roundedown
Width	4.9	2.	
Contractor		Online Contractors 2016 Ltd	
Date of Work		28-01-22	
Seal Type (circle one)	-	1 Coat / Racked in Chipseal / 2 Coat / Other.	2 Coat / Other.
Seal Reason	0	Waterproofing First Coat / Sec	Waterproofing First Coat / Second Coat Asphalt Membrane
Area Sealed (m²)		814 m	
Chip Grading (e.g. 3/5)	(9)	114 Membrane.	6.
Binder Type (e.g. B180/200)	90/200)	CRS-2-Enoulsion	lov.
Chip Source Company	, A	J. SWAP.	
Chip Source Quarry Total Volume of Binder Used (Hot) (Litres)	nder Used (Hot)	50109001 -	
Temparature of Binder (°C)	ar (°C)	2008	72
Residual Binder Rate (L/m²)	: (L/m²)	1.0 1/2	
Cutter (e.g. 3 pph Kero) Other Additives with concentratio (e.g. Polymer modification RS1, 3%)	ro) th concentrations ation RS1, 3%)	1 1	
Sealing Notes (e.g. Weather, Temp)	Veather, Temp)	Tempstedune w	was fine
Surfacing Chip PSV testing form attached	testing form attach	₩ per	

Regional infrastructure Technical Specifications

APPENDIX 3

Water Construction QA Documentation

- Pipe Laying Checklists F6.2
- Final Inspection Checklist F6.3
- Laboratory Water Test Results
- Pressure Test Results

F6.2 WATER RETICULATION PIPE LAYING CHECKLIST

Site: GREENHILL PARK - STA	GE 16	Develop	er: CHEO	WORTH (PROPERTIE
Name of qualified water service person:	TE RUK		EEHAN		
Location:	RD 1 825.4	ROZZA	T804/3	To 4/3	10203
	From	From Rol	From R02/24	Rom Ro 2/2A	From My3

Pipe Laying Checks

Pipe size, quality, acceptable products checked. (attach photo of manufacturer's stamp on	25005	150 MM	150MG PN12.5	63 mm	63MM
pipe)	, _	\checkmark		~	
Foundation support in soft soil					
 Dynamic cone penetrometer (DCP) results available 	X	X	X	X	×
 if under-cutting required, note metreage and DCP 	X	X	Y	X	X
Valves and hydrants not in carriageway	V				
Alignment and cover	V	V			
Bedding type and backfill material. (Attach	Sono	SAND	SAND	Sano	SAND
DCP results for road crossings and driveways)	×	×	X	X	×
All service connections in place. (Attach table of water meter and backflow preventor numbers with corresponding lot					
numbers.)					
Connections and Toby Box correctly located horizontally and vertically (Dwg D6.6 & 6.7)	V				
Hydrants and valves positioned correctly (Dwg D6.1-6.3)					
Thrust blocks installed.			7		
Pipelines flushed.		U			
As-built measurements taken prior to backfill.					
Pressure test witnessed and passed by Council representative.					

Main left charged at FAC level of	ppm			
Connection to live main by Council (unless specifically approved).			V	<u>"</u>
Bacto sample taken and passed by Council representative PRIOR to connection to the live Council main.				

Developer/Contractor ONLINE CONTRACTORS Council Rep Date:

Date:

F6.2 WATER RETICULATION PIPE LAYING CHECKLIST

Site: CREDHILL PAUL - STAKE	16	Develop	er: CIBW	KIH PRO	Keries
Name of qualified water service person:	TER	UKI SI	IEE HAN)	
Location:	108 8/3	802	To 2 2 2 5/7	To 05	1884 517
	From RO4/3	From RD2/24	From RD 2/4	From Rogly	From

Pipe Laying Checks

				COLD	12.00
Pipe size, quality, acceptable products	150 MM	150 MM	63mm	1500	5×15.2
checked. (attach photo of manufacturer's stamp on	DN 12.5	PN 12.5	bh 15.2	66150	INDICS
pipe)	V	· I			
Foundation support in soft soil					
Dynamic cone penetrometer (DCP) results available	×	X	X	X	X
 if under-cutting required, note metreage and DCP 	X	X	X.	×	X
Valves and hydrants not in carriageway					
Alignment and cover	V	V	V	1	V
Bedding type and backfill material. (Attach	SAND	500	SAND	SAND	SAND
DCP results for road crossings and driveways)	×	×	X	X	X
All service connections in place. (Attach table of water meter and backflow preventor numbers with corresponding lot					
numbers.)	~		✓		
Connections and Toby Box correctly located horizontally and vertically (Dwg D6.6 & 6.7)		7			
Hydrants and valves positioned correctly (Dwg D6.1-6.3)					
Thrust blocks installed.				✓	
Pipelines flushed.	7				
As-built measurements taken prior to backfill.	Z		V	/	
Pressure test witnessed and passed by Council representative.	V		V	V	/

Bacto sample taken and passed by Council representative PRIOR to connection to the live Council main.				U'
Connection to live main by Council (unless specifically approved).			9	
Main left charged at FAC level of	ppm			

Developer/Contractor ONUNE CONTRACTORS Council Rep Date:

03/03/2027

Date:

F6.2 WATER RETICULATION PIPE LAYING CHECKLIST

Site: GREEPHILL PARK - 579CE	16	Develop	er: CHEOV	SOLTH	PROPERTIES
Name of qualified water service person:	TERU	ICI SHO	EHAN		
Location:	ALCES S S A	To apply	TONFINE	2	٩
	From 7001	From/ LATINIS	Fron Ross/ Warkung	From	From

Pipe Laying Checks

Pipe size, quality, acceptable products checked. (attach photo of manufacturer's stamp on pipe)	150 mg	150MY PN12.5	63 mm	
Foundation support in soft soil				
Dynamic cone penetrometer (DCP) results available	×	X	X	
 if under-cutting required, note metreage and DCP 	X	χ	X	
Valves and hydrants not in carriageway				
Alignment and cover				
Bedding type and backfill material. (Attach DCP results for road crossings and	SAND	5000	Sano	
driveways)	×	λ	X	
All service connections in place. (Attach table of water meter and backflow preventor numbers with corresponding lot numbers.)				
Connections and Toby Box correctly located horizontally and vertically (Dwg D6.6 & 6.7)		V	V	
Hydrants and valves positioned correctly (Dwg D6.1-6.3)			V	
Thrust blocks installed.		V		
Pipelines flushed.	V			
As-built measurements taken prior to backfill.	Z	V		
Pressure test witnessed and passed by Council representative.	V	V	V	

Bacto sample taken and passed by Council representative PRIOR to connection to the live Council main.	V	V						
Connection to live main by Council (unless specifically approved).	V		V					
Main left charged at FAC level of	ppn	n						
DIRKUD								
Developer/Contractor ONLINE CONTRAC Date: 03/03/2022								

F6.3 WATER RETICULATION FINAL INSPECTION CHECKLIST

SUB	/ Contract No:			
Pre-	Meeting Tasks			
Dev	eloper to verify prior to meeting:	Developer Check	Council	Rep
21.	All lines flushed out	•		
22.	All backfilling complete and reinstated	Ø		
23.	Form 6.1 completed	9		
24.	Form 6.2 completed	9		
25.	Final as-built plans attached for site inspection	\square		
26.	Connected to existing supply by Council (refer Form 6.2)	■ I		
Site	Meeting			
27.	Valves and hydrants correctly marked (Refer drawings D6.2 & D6.4 for indicator posts)	■ O		
28.	Pavement markers in place			
29.	Fire hydrant lids painted			
30.	Boxes installed correctly (Refer drawings D6.2 & D6.3)			
31.	All valves checked on/off			
	etoper/Contractor opune contractors Council Rep			

Sample ID	Sample Type	Site	Date	Date	Parameter Name	Result	Units	Lab	Status
			Sampled	Received					
2021007675	Hamilton Reticulation	Greenhill 1	24/11/2021	24/11/2021	Heterotrophic Plate Count 35°C	<1	cfu/mL	HCC Laboratory	ev
	Maintenance								
2021007675	Hamilton Reticulation	Greenhill 1	24/11/2021	24/11/2021	Temperature On Arrival	15.5	ōС	HCC Laboratory	ev
	Maintenance								
2021007675	Hamilton Reticulation	Greenhill 1	24/11/2021	24/11/2021	E.coli Enumerated	<1	MPN/100mL	HCC Laboratory	ev
	Maintenance								
2021007675	Hamilton Reticulation	Greenhill 1	24/11/2021	24/11/2021	Total Coliforms Enumerated	<1	MPN/100mL	HCC Laboratory	ev
	Maintenance								
2021007675	Hamilton Reticulation	Greenhill 1	24/11/2021	24/11/2021	Time Sampled (client)	10:10		Client	ev
	Maintenance								
2021007675	Hamilton Reticulation	Greenhill 1	24/11/2021	24/11/2021	Sampler (client)	Lance Parkes		Client	ev
	Maintenance								
2021007676	Hamilton Reticulation	Greenhill 2	24/11/2021	24/11/2021	Heterotrophic Plate Count 35°C	<1	cfu/mL	HCC Laboratory	ev
	Maintenance								
2021007676	Hamilton Reticulation	Greenhill 2	24/11/2021	24/11/2021	Temperature On Arrival	17.2	ōС	HCC Laboratory	ev
	Maintenance								
2021007676	Hamilton Reticulation	Greenhill 2	24/11/2021	24/11/2021	E.coli Enumerated	<1	MPN/100mL	HCC Laboratory	ev
	Maintenance								
2021007676	Hamilton Reticulation	Greenhill 2	24/11/2021	24/11/2021	Total Coliforms Enumerated	<1	MPN/100mL	HCC Laboratory	ev
	Maintenance								
2021007676	Hamilton Reticulation	Greenhill 2	24/11/2021	24/11/2021	Time Sampled (client)	10:20		Client	ev
	Maintenance								
2021007676	Hamilton Reticulation	Greenhill 2	24/11/2021	24/11/2021	Sampler (client)	Lance Parkes		Client	ev
	Maintenance								
2021007677	Hamilton Reticulation	Greenhill 3	24/11/2021	24/11/2021	Heterotrophic Plate Count 35°C	1	cfu/mL	HCC Laboratory	mv
	Maintenance								
2021007677	Hamilton Reticulation	Greenhill 3	24/11/2021	24/11/2021	Temperature On Arrival	17.8	ōC	HCC Laboratory	ev
	Maintenance								
2021007677	Hamilton Reticulation	Greenhill 3	24/11/2021	24/11/2021	E.coli Enumerated	<1	MPN/100mL	HCC Laboratory	ev
	Maintenance								
2021007677	Hamilton Reticulation	Greenhill 3	24/11/2021	24/11/2021	Total Coliforms Enumerated	<1	MPN/100mL	HCC Laboratory	ev
	Maintenance								
2021007677	Hamilton Reticulation	Greenhill 3	24/11/2021	24/11/2021	Time Sampled (client)	10:30		Client	ev
	Maintenance								
2021007677	Hamilton Reticulation	Greenhill 3	24/11/2021	24/11/2021	Sampler (client)	Lance Parkes		Client	ev
	Maintenance								
2021007678	Hamilton Reticulation	Greenhill 4	24/11/2021	24/11/2021	Heterotrophic Plate Count 35ºC	<1	cfu/mL	HCC Laboratory	ev
	Maintenance								
2021007678	Hamilton Reticulation	Greenhill 4	24/11/2021	24/11/2021	Temperature On Arrival	18.4	ōС	HCC Laboratory	ev
	Maintenance								
2021007678	Hamilton Reticulation	Greenhill 4	24/11/2021	24/11/2021	E.coli Enumerated	<1	MPN/100mL	HCC Laboratory	ev
	Maintenance								

2021007678	Hamilton Reticulation Maintenance	Greenhill 4	24/11/2021	24/11/2021	Total Coliforms Enumerated	<1	MPN/100mL	HCC Laboratory	ev
2021007678	Hamilton Reticulation Maintenance	Greenhill 4	24/11/2021	24/11/2021	Time Sampled (client)	10:35		Client	ev
2021007678	Hamilton Reticulation Maintenance	Greenhill 4	24/11/2021	24/11/2021	Sampler (client)	Lance Parkes		Client	ev
2021007679	Hamilton Reticulation Maintenance	Greenhill 5	24/11/2021	24/11/2021	Heterotrophic Plate Count 35ºC	<1	cfu/mL	HCC Laboratory	ev
2021007679	Hamilton Reticulation Maintenance	Greenhill 5	24/11/2021	24/11/2021	Temperature On Arrival	17.5	ōС	HCC Laboratory	ev
2021007679	Hamilton Reticulation Maintenance	Greenhill 5	24/11/2021	24/11/2021	E.coli Enumerated	<1	MPN/100mL	HCC Laboratory	ev
2021007679	Hamilton Reticulation Maintenance	Greenhill 5	24/11/2021	24/11/2021	Total Coliforms Enumerated	<1	MPN/100mL	HCC Laboratory	ev
2021007679	Hamilton Reticulation Maintenance	Greenhill 5	24/11/2021	24/11/2021	Time Sampled (client)	10:40		Client	ev
2021007679	Hamilton Reticulation Maintenance	Greenhill 5	24/11/2021	24/11/2021	Sampler (client)	Lance Parkes		Client	ev
2021007680	Hamilton Reticulation Maintenance	Greenhill 6	24/11/2021	24/11/2021	Heterotrophic Plate Count 35°C	<1	cfu/mL	HCC Laboratory	ev
2021007680	Hamilton Reticulation Maintenance	Greenhill 6	24/11/2021	24/11/2021	Temperature On Arrival	18.3	ōС	HCC Laboratory	ev
2021007680	Hamilton Reticulation Maintenance	Greenhill 6	24/11/2021	24/11/2021	E.coli Enumerated	<1	MPN/100mL	HCC Laboratory	ev
2021007680	Hamilton Reticulation Maintenance	Greenhill 6	24/11/2021	24/11/2021	Total Coliforms Enumerated	<1	MPN/100mL	HCC Laboratory	ev
2021007680	Hamilton Reticulation Maintenance	Greenhill 6	24/11/2021	24/11/2021	Time Sampled (client)	10:45		Client	ev
2021007680	Hamilton Reticulation Maintenance	Greenhill 6	24/11/2021	24/11/2021	Sampler (client)	Lance Parkes		Client	ev
2021007681	Hamilton Reticulation Maintenance	Greenhill 7	24/11/2021	24/11/2021	Heterotrophic Plate Count 35°C	<1	cfu/mL	HCC Laboratory	ev
2021007681	Hamilton Reticulation Maintenance	Greenhill 7	24/11/2021	24/11/2021	Temperature On Arrival	20.0	ōС	HCC Laboratory	ev
2021007681	Hamilton Reticulation Maintenance	Greenhill 7	24/11/2021	24/11/2021	E.coli Enumerated	<1	MPN/100mL	HCC Laboratory	ev
2021007681	Hamilton Reticulation Maintenance	Greenhill 7	24/11/2021	24/11/2021	Total Coliforms Enumerated	<1	MPN/100mL	HCC Laboratory	ev
2021007681	Hamilton Reticulation Maintenance	Greenhill 7	24/11/2021	24/11/2021	Time Sampled (client)	10:50		Client	ev
2021007681	Hamilton Reticulation Maintenance	Greenhill 7	24/11/2021	24/11/2021	Sampler (client)	Lance Parkes		Client	ev
2021007682	Hamilton Reticulation Maintenance	Greenhill 8	24/11/2021	24/11/2021	Heterotrophic Plate Count 35°C	<1	cfu/mL	HCC Laboratory	ev

2021007682	Hamilton Reticulation	Greenhill 8	24/11/2021	24/11/2021	Temperature On Arrival	19.7	ōС	HCC Laboratory	ev
	Maintenance								
2021007682	Hamilton Reticulation	Greenhill 8	24/11/2021	24/11/2021	E.coli Enumerated	<1	MPN/100mL	HCC Laboratory	ev
	Maintenance								
2021007682	Hamilton Reticulation	Greenhill 8	24/11/2021	24/11/2021	Total Coliforms Enumerated	<1	MPN/100mL	HCC Laboratory	ev
	Maintenance						,	,	
2021007682	Hamilton Reticulation	Greenhill 8	24/11/2021	24/11/2021	Time Sampled (client)	10:55		Client	ev
	Maintenance								
2021007682	Hamilton Reticulation	Greenhill 8	24/11/2021	24/11/2021	Sampler (client)	Lance Parkes		Client	ev
	Maintenance								
2021007683	Hamilton Reticulation	Greenhill 9	24/11/2021	24/11/2021	Heterotrophic Plate Count 35°C	<1	cfu/mL	HCC Laboratory	ev
	Maintenance								
2021007683	Hamilton Reticulation	Greenhill 9	24/11/2021	24/11/2021	Temperature On Arrival	19.8	ōС	HCC Laboratory	ev
	Maintenance								
2021007683	Hamilton Reticulation	Greenhill 9	24/11/2021	24/11/2021	E.coli Enumerated	<1	MPN/100mL	HCC Laboratory	ev
	Maintenance								
2021007683	Hamilton Reticulation	Greenhill 9	24/11/2021	24/11/2021	Total Coliforms Enumerated	<1	MPN/100mL	HCC Laboratory	ev
	Maintenance								
2021007683	Hamilton Reticulation	Greenhill 9	24/11/2021	24/11/2021	Time Sampled (client)	11:00		Client	ev
	Maintenance								
2021007683	Hamilton Reticulation	Greenhill 9	24/11/2021	24/11/2021	Sampler (client)	Lance Parkes		Client	ev
	Maintenance								

Greenhill Stage 16

Greenhill Stage 16 Complete

Score	0%	Failed items	0	Actions	0
Location				(-37.754602	ell, Hamilton New Zealand 2899999995, 099999998)
Conducted on				19 Nov 2021	09:47 NZDT
Test type				Water pressure te	st
Pipe type				150mm - SN16 - uP	PVC
				63mm - PN12 - md	lpe
MH # tested					Nil
MH # to MH #					Nil
Emild	Online 19 Nov 2	021 10:09 NZDT			
Inspector/Auditor				Lance Parkes	
Comments					
Photos Photo 1 Photo	2 Pho	oto 3			
Pass/Fail				Pass	

Private & Confidential 1/3

Appendix



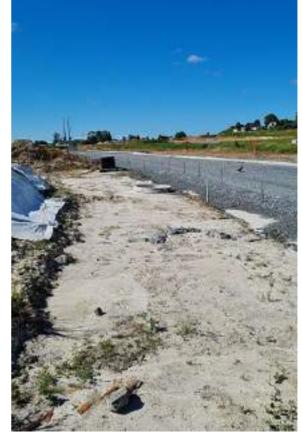


Photo 1 Photo 2

Private & Confidential 2/3

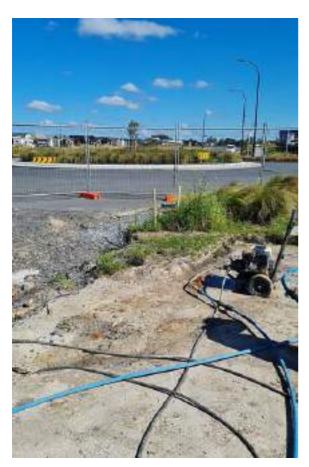


Photo 3

Private & Confidential 3/3

APPENDIX 4

Wastewater Construction and QA Records

- Wastewater Pipe Laying Checklist F5.2
- Wastewater Manhole Checklist F5.3
- Wastewater trench Backfill Summary Checklist
 F5.4
- Wastewater Final Inspection Checklist F5.6
- Pressure Test Results
- CCTV submission email

Engineering plan number(s): 30410					
Name of certified drainlayer: RW	-	1	co el		
Location: Pipe length (MH To MH)	to 1	1 to 1	_ to _		ī to ī
Pipe Laying Checks					
Trench Safety (d) Shield (e) Batter (f) Other	Ø 0	000	000	000	0
Pipe size, quality, manufacturer, on acceptable products list	0	B		0	0
Set out - Surveyors name	0	0		0	
Foundation support attached – Dynamic cone penetrometer (DCP) results – if under cutting required, note metreage and DCP results.	0	0	0	0	D
Record daily level check and confirm on grade	0		0	0	
Bedding type and surround material:					
Bulk Backfill material: Sand Boun Rack	0				
Bulk backfill compaction (DCP results from pipe to ground level attached)	0	Ø		0	
Alignment – control points identified	0		0		0
Pressure test witnessed and passed by Council representative.	0		0		0
Service connections					
All service connections in place, taped, and staked	Ø	Ø		ď	d
As-built measurements taken, GPS located	ď	13	0	Ø	p
CCTV pipe inspection data and comments supplied	Ø	3	П	o o	
West Construction		2-2-	-22		

Developer/Contractor

Engineering plan number(s): 30410	2				
Name of certified drainlayer: 12W			+	t m	wi
Location: Pipe length (MH To MH)	- to -	10 to 2	6 to 6	5 to 5	5 to 5
Pipe Laying Checks					
Trench Safety (d) Shield (e) Batter (f) Other	0 0 0	0 0 0	000	0 0 0	0000
Pipe size, quality, manufacturer, on acceptable products list	P		Ø	Ø	Ø
Set out - Surveyors name - Set out checked	0	0	00		0
Foundation support attached — Dynamic cone penetrometer (DCP) results — if under cutting required, note metreage and DCP results.		0	0	0	0
Record daily level check and confirm on grade		0	0		
Bedding type and surround material: 40/20		0	0		0
Bulk Backfill material: Sand Bran Rock			0		
Bulk backfill compaction (DCP results from pipe to ground level attached)	0	B		D	ø
Alignment – control points identified	Ø	Ø		1	Ø
Pressure test witnessed and passed by Council representative.	0	0	Ø	Ø	п
Service connections					
All service connections in place, taped, and staked	0	Ø		Ø	
As-built measurements taken, GPS located	Ø	13		Ø	D
CCTV pipe inspection data and comments supplied	0	ø	Ø	Ø	4
West Construction		2-1:	-22		

Waikato Local Authority SHARED SERVICES

Date

Developer/Contractor

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	0	0		0
0 0	0	0	0	
8	0			0
4	-		0	
₽	0		D	Ø
0	0	D	Ø	Ø
	A	0		0
0	0			
			%	
a	ø	П	Ø	b
Ø	ď		Ø	12
0	Б	Þ		

Developer/Contractor

Engineering plan number(s): 3000					
Name of certified drainlayer: RW	ó	ナ	五年	7 7	F 7
Location: Pipe length (MH To MH)	1.00	C 10 C	⊆ to □	C to C	- to
Pipe Laying Checks					
Trench Safety (d) Shield (e) Batter (f) Other	0	0 0	0	0 0	000
Pipe size, quality, manufacturer, on acceptable products list		0		0	0
Set out - Surveyors name	0	0		0	0
Foundation support attached — Dynamic cone penetrometer (DCP) results — if under cutting required, note metreage and DCP results.	0	0	0	e	0
Record daily level check and confirm on grade	Ø	P	Ø	0	
Bedding type and surround material:		□/			0
Bulk Backfill material: Bran Roth	0		0		B
Bulk backfill compaction (DCP results from pipe to ground level attached)	0	6		Ø	D
Alignment – control points identified	Ø			Ø	
Pressure test witnessed and passed by Council representative.	12		0	0	Ø
Service connections					
All service connections in place, taped, and staked		Ø	Ø	D D	Ó
As-built measurements taken, GPS located	Ø	Ø	Ø		Ø
CCTV pipe inspection data and comments supplied	Þ	Ø	Ø	П	۵
	4	1000	2-22		

Developer/Contractor

F5.3 WASTEWATER MANHOLE CHECKLIST

Engineering Plan Number(s) 304	0				
Name of certified drainlayer: (2W)					
Location: Pipe length (MH To MH)	1.14	1.13	1112	1.11	140
Manhole Construction Checklist	MH numb	er			
Manhole size, quality, manufacturer on acceptable materials list			Ø	Ø	口口
Set out /orientation		ď	Ø		Ø
Sealing strip between risers	0	б	Ø	0	б
Height Alignment and cross section Half pipe lining (wastewater only) Step recesses (if applicable) Flexible joints Cutting and plastering of connections		0000		00000	00000
Access details per drawings (e.g. manhole cover sited over steps).	Ø	ď	ď		q
Step irons including epoxy to outside recesses		6	ď	0	0
Bedding type and surround	D /	ď			Ø
Bulk backfill compaction - Dynamic Cone Penetrometer (DCP) results attached	D/	ø	0		Ø
No debris in pipelines	B	Ø	ø	0	0
Pipe invert fall through manhole	Ø	Ø	ď	Ø	0
Pressure test witnessed and passed by Council representative.	0	Þ	В	п	Ø

Developer/Contractor

F5.3 WASTEWATER MANHOLE CHECKLIST

Engineering Plan Number(s) 3040	0				
Name of certified drainlayer: (2W)	drainlayer: (LW) Ingth (MH To MH)				
Location: Pipe length (MH To MH)	1.9.1	1.8	1.7.	1-7131	1.7A4
Manhole Construction Checklist	MH num	ber	JR		
Manhole size, quality, manufacturer on acceptable materials list	Ø	0	n	6	б
Set out /orientation	Ø	6	Ø	п	Б
Sealing strip between risers	D'	б	0	0	Ó
Benching Height Alignment and cross section Half pipe lining (wastewater only) Step recesses (if applicable) Flexible joints	0	0 0	000	000	0
Cutting and plastering of connections	700	7000			-
Access details per drawings (e.g. manhole cover sited over steps).				-/	-
Step irons including epoxy to outside recesses	4	б	0	ď	П
Bedding type and surround	6	0	Ø	0	Ø
Bulk backfill compaction - Dynamic Cone Penetrometer (DCP) results attached	0	Ø	Ø	Ø	Ø
No debris in pipelines	Ø	1 2	D/	ø	2
Pipe invert fall through manhole	ø	0	Q'	Ø	0
Pressure test witnessed and passed by Council representative.	6	0	Ø	б	D/

Developer/Contractor



BACKFILL RESULT SHEET

TESTED BY: West Construction

PROJECT NAME: Greenhill Park Stage 16/17 SEWER

C/L Trench(CIV VALUES)					
Sewer Chainage	1ST LIFT	2ND LIFT	Remarks		
EX Stub					
5	23	26	BROWN ROCK 1M TEST:		
WWMH1.14					
5	25	22	BROWN ROCK 1M TESTS		
WWMH1.13					
10	21	19	BROWN ROCK 1M TEST		
20	25	21	BROWN ROCK 1M TESTS		
30	23	22	BROWN ROCK 1M TESTS		
40	22	24	BROWN ROCK 1M TESTS		
50	26	21	BROWN ROCK 1M TEST:		
70	21	24	BROWN ROCK 1M TEST:		
80	21	22	BROWN ROCK 1M TEST:		
90	20	23	BROWN ROCK 1M TEST:		
WWMH1.12					
10	24	19	BROWN ROCK 1M TEST:		
20	31	25	BROWN ROCK 1M TEST		
30	22	27	BROWN ROCK 1M TEST		
40	20	24	BROWN ROCK 1M TEST		
50	21	23	BROWN ROCK 1M TEST		
60	25	22	BROWN ROCK 1M TEST		
70	22	23	BROWN ROCK 1M TESTS		
80	24	20	BROWN ROCK 1M TESTS		
WWMH1.11					
10	22				
20	23				
WWMH1.10					
10	25				
20	22				
30	24				
40	21				
50	21				
WWMH1.9					
10	23				
20	25				
30	22				
40	21				
50	22				
60	22				
WWMH1.8					
10	23				
20	24				
30	22				
40	22	23			
50	26	21			

ESTED BY: ROJECT NAME :	West Construction Greenhill Park Stage 16/17 SEWER		
60	30	25	
70	24	23	
WWMH1.7	24	23	
	21	25	
10 20	21	22	
	24	25	
30	27	24	
40	25	24	
50	23	24	
WWMH1.6	22	22	
10	23		
20	24	21	
30	21	19	
40	23	20	
50	23	24	
WWMH1.5		24	
10	19	21	
20	22	20	
30	21	23	
40	23	24	
50	27	22	
60	28	25	
WWMH1.4			
10	23		
20	24		
30	22		
40	22	23	
50	24	22	
WWMH1.3			
10	22	24	
20	20	21	
30	23		
40	23		
50	21		
60	22		
WWMH1.2			
10	20		
20	21		
30	23		
40	25		
50	24		
60	21		
WWMH1.1			
WWMH1.9			
10	19		
20	22		
WWMH1.9.4			
10	25		
20	21		

STED BY: OJECT NAME :	West Construction Greenhill Park Stage 16/17 SEWE	ER .	
30	22		
40	23		
50	19		
60	24		
WWMH1.9.3			
10	20		
20	25		
30	23		
40	21		
50	22		
60	22		
WWMH1.9.2			
10	23		
20	24		
30	23		
40	22		
50	33		
60	21		
70	24		
80	26		
90	22		
100	23		
WWMH1.9.1			
WWMH1.10			
10	22		
20	24		
30	22		
40	20		
50	23		
WWMH1.10.1			
WWMH1.7			
10	21	23	
20	23	24	
30	22	24	
40	24		
50	20		
WWMH1.7A-4			
WWMH1.7			
10	26		
20	23		
30	24		
WWMH1.7B-1			
WWMH1.7A-4			
10	23		
20	24		

TESTED BY:	West Construction	
PROJECT NAME:	Greenhill Park Stage 16/17 SEWER	
30	500 SAND ONLY	
40	500 SAND ONLY	
50	500 SAND ONLY	
WWMH1.7A-3		
10	500 SAND ONLY	
20	500 SAND ONLY	
30	500 SAND ONLY	
40		
50		
WWMH1.7A-2		
10	500 SAND ONLY	
20	500 SAND ONLY	
30	500 SAND ONLY	
WWMH1.7A-1		

West
20410
1.84-1.14-1.13-1.12-1.11-1.10-1.91.9
CBR > 15
WEST
(attached)

West	Construction	2-2-22

Developer/Contractor

Trench backfill requires remedial work as follows:

Technician Carrying out Tests:	west
Location:	HW
Plan No(s);	30410
From MH	17-1.6-1.5-1.4-1.3-1.2-1.1-1810.1-1.9-4-1.
Acceptance Criteria:	LBR7 15
Tests by:	hest
	(attached)
Analysis of Results Trench backfill completed s	satisfactorily

INE &	Construction	2-2-22
V		1000

Developer/Contractor

☐ Trench backfill requires remedial work as follows:

Technician Carrying out Tests:	West
Location:	LAND
Plan No(s):	30410
From MH	1.9.3-1.9.2-19.1 - 1.7-(1.78-1)-17-17A4
Acceptance Criteria:	CBR>15
Tests by:	West
	(attached)
Analysis of Results Trench backfill completed s	(attached)
Analysis of Results Trench backfill completed s	(attached)

West Constaction

2-2-22

Developer/Contractor

Technician Carrying out Tests:	West	
Location:	GHIP	
Plan No(s):	30410	
From MH	1.7A3-1.7A2-1.7A	
Acceptance Criteria:	CBR >15	
Tests by:	West	(attached)
Analysis of Results		(attached)
Analysis of Results		(attached)
Analysis of Results Trench backfill completed s or Trench backfill requires ren	satisfactorily	(attached)
Analysis of Results Trench backfill completed sor	satisfactorily	(attached)

Developer/Contractor

West Constructor

Date

2-2-22

Greenhill Stage 16 & 17

Greenhill Stage 16 & 17

Score	0%	Failed items	0	Actions	0
Site conducted					Unanswered
Location				Greenhill/Carrs Rd Waikato, New Zealar (-37.756803	•
Conducted on				22 Sep 20	21 13:30 NZST
Test type				Wastewater pre	ssure test
				MH pressure	etest-
Pipe type				150mm - SN16	5-uPVC
				100mm - SN16	5 - uPVC
MH # tested				All Waste Water -	Stages 16 & 17
MH # to MH #				All Waste Water -	Stages 16 & 17
Tested by					
Wests Construction (Matt) 28 Feb 2022 14:27 NZDT					
Inspector/Auditor				Lance Par	kes
Comments					
Photos					
Pass/Fail				Pass	

97 Crey Street Tairango Bas of Flody 3150 Tet 37 877 6003 Pas Web www.skgalouna



19-30410-01 Greenhill Park Area LUK

Document Issue Sheet

Issue No:

Date:

18 Mar 2022

Issue Notes

Stage 16 Greenald Park CCTV data

Issued By: Barry Pearson

Documents				
Document Title	Document Dotails	Revision	File Type	Issue Reason
19-30410-01, SW GCTV Stage 18	5/0-stage 16, CCTV deta	L.E	zip	Review
18-304 (0-01, WW 00TV Stage 10	Slage 16 WW-CCTV data	1.0	zip	Review

Recipients				
Recipient Name	Role	Media	Copies	
Readon Hevelt (Chedworth Properties Ltd I kninton)		By Dawn rest	1	
Carses Mauring It taprillen Oky Counsil Hamilton)	Offent Contact	Ву Озмлюзі	1	
Grant Cowles (Stom phension! Lipinsk I argred Psylhership Tsurwige):	Project Manager, Project Lead	6y Obwintoed	1	
Lance Parkets (Hamilton Coy Council Hamilton)		Dy Dewnload	1	
Martya Smith (Hamilton City Council Hamilton)	HCC Obvolopment Engineer (Civil Engineer)	By Dowcload	1	
Subdivisor Heralton City Council (Heralton City Council Heralton)	Caucal	By Cspermed	1	



WASTEWATER PIPE NETWORK - FINAL INSPECTION CHECKLIST

SUB: CONTRACT NO: CONTRACT NO: CONTRACT NO: CONTRACT NO: Developer to verify checklist prior to meeting Check All checklists completed (from numbers) All required CCTV inspections carried out, reviewed and any re-work Check All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg.infiltration, plastering) Check A. All manholes checked (eg.infiltration, plastering) Check A. All manholes checked (eg.infiltration plastering) Check A. All manholes checked (eg.infiltration, plastering) Check A. All manholes checked (eg.infiltration, plastering) Check A. All manholes checked (eg.infiltration, plastering) Check A. All manholes checked (eg.infiltration, plastering) Check A. All manholes checked (eg.infiltration, plastering) Check A. All manholes checked (eg.infiltration, plastering) Check A. All manholes checked (eg.infiltration, plastering) Check A. All manholes checked (eg.infiltration, plastering) Check A. All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg.infiltration, plastering) Check A. All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg.infiltration, plastering) A. All manholes checked (eg	n Developer Check Check
--	-------------------------

APPENDIX 5

Stormwater Construction and QA Records

- Stormwater Pipe Laying Checklist F4.2
- Stormwater Manhole Checklist F4.3
- Trench Backfill Compaction Test Summary F4.4
- Stormwater Backfill Compaction Test Results
- Stormwater Catchpit Checklist F4.5
- Stormwater Final Inspection Checklist F4.6
- CCTV submission email

F4.2 STORMWATER PIPE LAYING CHECKLIST

Engineering plan number(s): 3040		
Name of certified drainlayer: (2,40)		
Location: Pipe length (MH To MH)	200000000000000000000000000000000000000	to

Pipe Laying Checks

Trench Safety					
(a) Shield (b) Batter (c) Other	080	000	000	0 0	0
Pipe size, quality, manufacturer, on acceptable products list		Ø	D.		
- Surveyors name Onlive - Set out checked	Ø	0	AG	D D	00
Foundation support attached Dynamic cone penetrometer (DCP) results if under cutting required, note metreage and DCP results.	0	0	00	D D	00
Record daily level check and confirm on grade	Ø	6	п		
Bedding type and surround material:	12/	Ø	ø		0
Bulk Backfill material: Sand+ brown Roch	Ø	Ø	6	ď	
Bulk backfill compaction (DCP results from pipe to ground level attached)		ď	ď		
Alignment – control points identified	Ø	Ø	Ø	₫,	
Pressure test witnessed and passed by Council representative.	d			4	

Service connections

All service connections in place, taped, and staked	13	0	0	Ø	
As-built measurements taken, GPS located		Ø	Ø	Ø	
CCTV pipe inspection data and comments supplied	0	8	ď	6	

West Construction

11/11/21

Developer/Contractor

F4.2 STORMWATER PIPE LAYING CHECKLIST

Engineering plan number(s): 30410	0
Name of certified drainlayer: R _ W	\$ 1 0 0 VV 7
Location: Pipe length (MH To MH)	3 or 2 2 or 2 2 or 2 0 or 8

Pipe Laying Checks

Trench Safety	- 1				-
(a) Shield (b) Batter (c) Other	000		0 0 0	000	000
Pipe size, quality, manufacturer, on acceptable products list	0	0		0	0
Set out - Surveyors name OMM - Set out checked	0		0	0	0
- Dynamic cone penetrometer (DCP) results - if under cutting required, note metreage and DCP results.	0	0		0	00
Record daily level check and confirm on grade			0	Ø	0
Bedding type and surround material:	O/	Ø		12	0
Bulk Backfill material: Sand Brown Roch		0			Ø
Bulk backfill compaction (DCP results from pipe to ground level attached)	Œ	D	Ø	12	Ø
Alignment – control points identified	0	6	Ø	0	Ø
Pressure test witnessed and passed by Council representative.		6	d	б	0

Service connections

All service connections in place, taped, and staked		12	Ø	Ø	1
As-built measurements taken, GPS located	Ø,	Ø	Ø	ď	ď
CCTV pipe inspection data and comments supplied	B	В	Ø	б	ď

St Construction

14 0

Developer/Contractor

UPDATED MAY 2018 SECTION 4 -STORMWATER

F4.2 STORMWATER PIPE LAYING CHECKLIST

Engineering plan number(s): 36410	G
Name of certified drainlayer: 👢 W	されている
Location: Pipe length (MH To MH)	いるといいるいいるとのなるの

Pipe Laying Checks

Trench Safety				_	
(a) Shield (b) Batter (c) Other	000	000	0 0 0	000	000
Pipe size, quality, manufacturer, on acceptable products list	9		0	0	0
- Surveyors name Online - Set out checked		00	00	0	00
Foundation support attached Dynamic cone penetrometer (DCP) results if under cutting required, note metreage and DCP results.	0	D	0	Q Q	D D
Record daily level check and confirm on grade	12	Ø		0	б
Bedding type and surround material:	ø	6	12	D D	6
Sand Brown Rock	0	6	Ø	ď	0
Bulk backfill compaction (DCP results from pipe to ground level attached)	0	Ø	0	Ø	0
Alignment – control points identified			D	D	0
Pressure test witnessed and passed by Council representative.	0	0		0	

Service connections

All service connections in place, taped, and staked			Ø	0	
As-built measurements taken, GPS located	0	0	ď	12	d
CCTV pipe inspection data and comments supplied	0	ø	б	Б	П

West Construction

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Developer/Contractor

F4.2 STORMWATER PIPE LAYING CHECKLIST

Engineering plan number(s): 304	10	
Name of certified drainlayer:	2 44 - 4	
Location: Pipe length (MH To MH)	E10 FE 10 F 3	るないる祖母の出

Pipe Laying Checks

Trench Safety					-
(a) Shield (b) Batter (c) Other	000	000	000	000	000
Pipe size, quality, manufacturer, on acceptable products list	0	d		Ø	
Set out - Surveyors name Online - Set out checked	0	0	8	0	0
Foundation support attached Dynamic cone penetrometer (DCP) results if under cutting required, note metreage and DCP results.		0	0	D D	6
Record daily level check and confirm on grade		0	13		0
Bedding type and surround material:		Ø			
Bulk Backfill material: Sand Brown Roch	0	0		б	0
Bulk backfill compaction (DCP results from pipe to ground level attached)	0	Ø		0	0
Alignment – control points identified				0	0
Pressure test witnessed and passed by Council representative.	0		0		2

Service connections

All service connections in place, taped, and staked	B	Q	12	12	D.
As-built measurements taken, GPS located	O'	0	12	12	Ø
CCTV pipe inspection data and comments supplied	Ø	6	Ø		6

West Constantion

11/11/21

Developer/Contractor

F4.3 STORMWATER MANHOLE CHECKLIST

Engineering Plan Number	er(s) 304	10			
Name of certified drainla	yer: R.W.	-07 00:	8 ==	. 6	
Location: Pipe length (MH To MH)	50	06	D6-6	D6-5	DE-4
Manhole Construction Checklist	MH number	- C			
Manhole size, quality, manufacturer on acceptable materials list	0		0	or .	Ø
Set out /orientation	0	□ /	Ø	Ø	Ø
Sealing strip between risers		б	Ø	Ø	
Benching - Height - alignment and cross section - half pipe lining (wastewater only) - Step recesses (if applicable)	0000	000	-000i	(DOOK	-0000
Flexible joints	ď	0	Ø	D/	D/
Cutting and plastering of connections	6	0	б	б	
Access details per drawings (e.g. manhole cover sited over steps).	б	б	б	ø	6
Step irons including epoxy to outside recesses	б	D	6	ø	o/
Bedding type and surround	б	ď	G.	П	O'
Bulk backfill compaction - Dynamic Cone Penetrometer (DCP) results attached	6	6	0	ď	б
No debris in pipelines	D/	Ø	0	Ø	D/
Pipe invert fall through manhole	ď	6	Ø	a	

West Construction

2/2/22

Developer/Contractor

F4.3 STORMWATER MANHOLE CHECKLIST

Engineering Plan Numb	er(s)				
Name of certified drainle	ayer:				
Location: Pipe length (MH To MH)	D6-4-1	063	120 572	EI	£2 ou
Manhole Construction Checklist	MH number				
Manhole size, quality, manufacturer on acceptable materials list	p	Ø	б	б	6
Set out /orientation	D/	Ø	ď	6	6
Sealing strip between risers	0		6	D	б
Benching - Height - alignment and cross section - half pipe lining (wastewater only) - Step recesses (if applicable)	prot	506	Ø061	poat	0000
Flexible joints	Ø	ø	б	Ø	
Cutting and plastering of connections	D/	Ø		Ø	ď
Access details per drawings (e.g. manhole cover sited over steps).	□ □	Ø	ø	Ø	ď
Step irons including epoxy to outside recesses	б	ď	ď	Ø	ď
Bedding type and surround	Ø	Ø	В	Ø	Ø
Bulk backfill compaction - Dynamic Cone Penetrometer (DCP) results attached	6	8	ď	Ø	d
No debris in pipelines	Q.	Ø	á	Ø	Ø
Pipe invert fall through manhole	D/	D/	Ø	б	б

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2/2/22

Developer/Contractor

F4.3 STORMWATER MANHOLE CHECKLIST

Engineering Plan Numb	oer(s)				
Name of certified drain	ayer:				
Location: Pipe length (MH To MH)	A2-3	A2-2	A2-1	135	B4
Manhole Construction Checklist	MH number				
Manhole size, quality, manufacturer on acceptable materials list	ď	0	o	Ø	Ω.
Set out /orientation	Ď.		6	6	Ц
Sealing strip between risers	9	Ø	Ø	d	ø
Benching - Height - alignment and cross section - half pipe lining (wastewater only) - Step recesses (if applicable)	0000	0001	000	000	6606
Flexible joints	n	Þ	9	9	ď
Cutting and plastering of connections	□ /	D/	D/	ø	0
Access details per drawings (e.g. manhole cover sited over steps).	9	9	ø	6	D/
Step irons including epoxy to outside recesses	ď	9/	Ø	Ø	ď
Bedding type and surround	Ď.	Ø.	Ø	Ф	ZÍ
Bulk backfill compaction - Dynamic Cone Penetrometer (DCP) results attached	7	a	ď	Ø	б
No debris in pipelines	d /	0	ø	0/	
Pipe invert fall through manhole	Ø	6	ø	6	Ø

Developer/Contractor



BACKFILL RESULT SHEET

West Construction					
Greenhill Park Stage 16/17 Stormwa	ater				
C/L Trench(C/L Trench(CIV VALUES)				
1ST LIFT	2ND LIFT	Remarks			
22					
29					
25					
24					
23					
25					
24					
24					
24					
26					
25					
24					
23					
500SAND					
500SAND					
500SAND					
26					
25					
26					
26					
27					
21					
25					
22					
24					
	Greenhill Park Stage 16/17 Stormwood C/L Trench(1ST LIFT 22 29 29 25 24 24 24 24 24 24 26 25 24 23 500SAND 500SAND 500SAND 500SAND 500SAND 500SAND 500SAND 500SAND 500SAND 500SAND	C/L Trench (CIV VALUES) 1ST LIFT 2ND LIFT			

TED BY: DJECT NAME :	West Construction Greenhill Park Stage 16/17 Store	nwater	
30	21		
40	20		
50	22		
SWMH A2-2			
0	21		
10	24		
20	26		
30	25		
40	29		
SWMH A2-1			
SWMH B4			
0	21	23	
10	24	27	
20	28	24	
SWMH B3			
0	22	23	
10	24	22	
20	27	29	
30	21	27	
SWMH B2			
0	23	22	
10	25	25	
20	20		
30	29		
40	28		
50	25		
SWMH B4			
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10	22		
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30	24		
40	23		
50	30		
SWMH B4-1			
SWMHC9			
0	24	20	
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30	27	22	
40	22	26	
50	23	24	
SWMHC8			
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20	24	24	
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40	22	23	

ESTED BY: ROJECT NAME :	West Construction Greenhill Park Stage 16/17 Stormw	ater	
SWMHC7	Greeninii Fark Stage 10/17 Storiniw	ate:	
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SWMHC4			
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SWMHC3			
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SWMHC2			
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SWMHC8-2			
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30	29		
SWMHC8-1			
SWMHC9			
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TESTED BY:	West Construction		
PROJECT NAME:	Greenhill Park Stage 16/17 Stormwa	ater	
10	24	26	
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40	21		
50	26		
SWMHC9-2			
0	21		
10	23		
20	24		
30	22		
40	27		
SWMHC9-1			

F4.4 STORMWATER TRENCH BACKFILL COMPACTION TEST SUMMARY

(attach individual test reports) out Tests Technician Carrying west Construction Location: Plan No(s): 304(0) 08-07-06-(D6-6)-(D6-5)-(D6-4)-(D6-4-1)-(D6-3) -(D6-5-2)-E1-E2 Acceptance Criteria: (BR) 15 (attached) Tests by: Analysis of Results Trench backfill requires remedial work Trench backfill completed satisfactorily as follows: wast Construction

Developer/Contractor

Date 2-2-22

F4.4 STORMWATER TRENCH BACKFILL COMPACTION TEST SUMMARY

(attach individual test reports)

Technician We	Carrying Carrying	ng	out		Tests
Location:	SHIP				
Plan No(s):	30410				
From MH	AZ-(AZ-3)-(AZ-Z)-(AZ-	1)		
Acceptance Cr	riteria: CBR-15	>			
Tests by:	West				(attached)
An	alysis of Results				
Trench b as follows:	ackfill completed satisfacto	orily <u>or</u> 🗖	Trench back	cfill requires remed	lial work
West	(anstruction	_		1-2-72	
D.	avalanar/Contractor		Date	- 1- 60	

Location:						
GHP	BI	Ble	Blut	DLP A3	AZ	
Catchpit Number Catchpit Construction Checklist						
Catchpit , type, size, quality, accepted material checked	Ø		Ø	a	6	
Set out /orientation	Ø	D'	d	ø	ø	
Location checked	Ø	9	Ø	0	Ď.	
Depth of sump below outlet correct	ď	Ď.	Ø	Ø	ø	
Cutting and plastering of outlet connection	Ц	ď	Ø	0	б	
Floating debris baffle installed correctly	Ц	б	Ø	0	Ø	
Backfill compaction around pit checked	ė		ø	0	Þ	
Seating and plastering of surround and grate to sump barrel	Ø	Ф	Ø	Ø	Þ	
All silt and debris removed from sump	D	D	d	Ø	Ø	

rethurkers) tesul

2-2-22

Developer/Contractor

Location:	A2-3	AZZB	A2-2A	A2-1	C9		
Catchpit Construction Checklist	Catchpit Number						
Catchpit , type, size, quality, accepted material checked	0	a	0	0	Ø		
Set out /orientation	9	9	9				
Location checked	Ø	Ø	9	Ø	0		
Depth of sump below outlet correct	б	Ø	9	Ø	Ø		
Cutting and plastering of outlet connection	6	Ø	9	B	0		
Floating debris baffle installed correctly	Ø		Ø	Ø	ď		
Backfill compaction around pit checked	d	Ø	Þ	0	0		
Seating and plastering of surround and grate to sump barrel	П	ď	4	Ø	Ø		
All silt and debris removed from sump	T I		0		6		

West Construction

2-2-22

Developer/Contractor

Location:						
GHP	BI	Ble	Blut	DLP A3	AZ	
Catchpit Number Catchpit Construction Checklist						
Catchpit , type, size, quality, accepted material checked	Ø		Ø	a	6	
Set out /orientation	Ø	D'	d	ø	ø	
Location checked	Ø	9	Ø	0	Ď.	
Depth of sump below outlet correct	ď	Ď.	Ø	Ø	ø	
Cutting and plastering of outlet connection	Ц	ď	Ø	0	б	
Floating debris baffle installed correctly	Ц	б	Ø	0	Ø	
Backfill compaction around pit checked	ė		ø	0	Þ	
Seating and plastering of surround and grate to sump barrel	Ø	Ф	Ø	Ø	Þ	
All silt and debris removed from sump	D	D	d	Ø	Ø	

rethurkers) tesul

2-2-22

Developer/Contractor

Location:	A2-3	AZZB	A2-2A	A2-1	C9				
Catchpit Construction Checklist		Cat	chpit Num	ber	er				
Catchpit , type, size, quality, accepted material checked	D'	a	0	0	E				
Set out /orientation	9	9	9						
Location checked	Ø	Ø	9	Ø	0				
Depth of sump below outlet correct	б	Ø	9	0	Ø				
Cutting and plastering of outlet connection	6	Ø	9	B	0				
Floating debris baffle installed correctly	Ø		Ø	Ø	ď				
Backfill compaction around pit checked	d	ď	Þ	0	0				
Seating and plastering of surround and grate to sump barrel	п	ď	4	Ø	ø				
All silt and debris removed from sump	Ø	<u>d</u>	0	0	6				

West Construction

2-2-22

Developer/Contractor

97 Crey Street Tairango Bas of Flody 3150 Tet 37 877 6003 Pas Web www.skgalouna



19-30410-01 Greenhill Park Area LUK

Document Issue Sheet

Issue No:

Date:

18 Mar 2022

Issue Notes

Stage 16 Greenald Park CCTV data

Issued By: Barry Pearson

Documents					
Document Title	Document Dotails	Revision	File Type	Issue Reason	
19-30410-01, SW GCTV Stage 18	5/0-stage 16, CCTV deta	L.E	zip	Review	
18-304 (0-01, WW 00TV Stage 10	Slage 16 WW-CCTV data	1.0	zip	Review	

Recipients				
Recipient Name	Role	Media	Copies	
Readon Hevelt (Chedworth Properties Ltd I kninton)		By Dawn rest	1	
Carses Mauring It taprillen Oky Counsil Hamilton)	Offent Contact	Ву Озмлюзі	1	
Grant Cowles (Stom phension! Lipinsk I argred Psylhership Tsurwige):	Project Manager, Project Lead	6y Obwintoed	1	
Lance Parkets (Hamilton Coy Council Hamilton)		Dy Dewnload	1	
Martya Smith (Hamilton City Council Hamilton)	HCC Obvolopment Engineer (Civil Engineer)	By Dowcload	1	
Subdivisor Heralton City Council (Heralton City Council Heralton)	Caucal	By Cspermed	1	

APPENDIX 6

Landscaping Certifications

Landscaping final inspection form requested from HCC

APPENDIX 7

Network Utilities Certifications

- Ultrafast Fibre Completion Letter
- First Gas Completion Letter
- Street Light Product Warranty
- WEL Completion Letter
- Street light Suppliers Declaration of Conformity
- Streetlight Producer Statement
- Streetlight COC & ROI Certificates
- HCC Form Street Light RAMM Data

Ref: S&L Consultants, Surveyors & Engineers - 20413-S16

ID: HN-086-21



0800 342 735 info@ultrafast.co.ru

ultrafastfibre.co.nz.

27th of February 2022

ACCEPTANCE BY ULTRAFAST FIBRE LIMITED AS TELECOMMUNICATIONS OPERATOR

Subdivision: Greenhill Park Ruakura Residential Stage 16 (55 Lots), Lot 702, DP 534481, Chartwell, Hamilton.

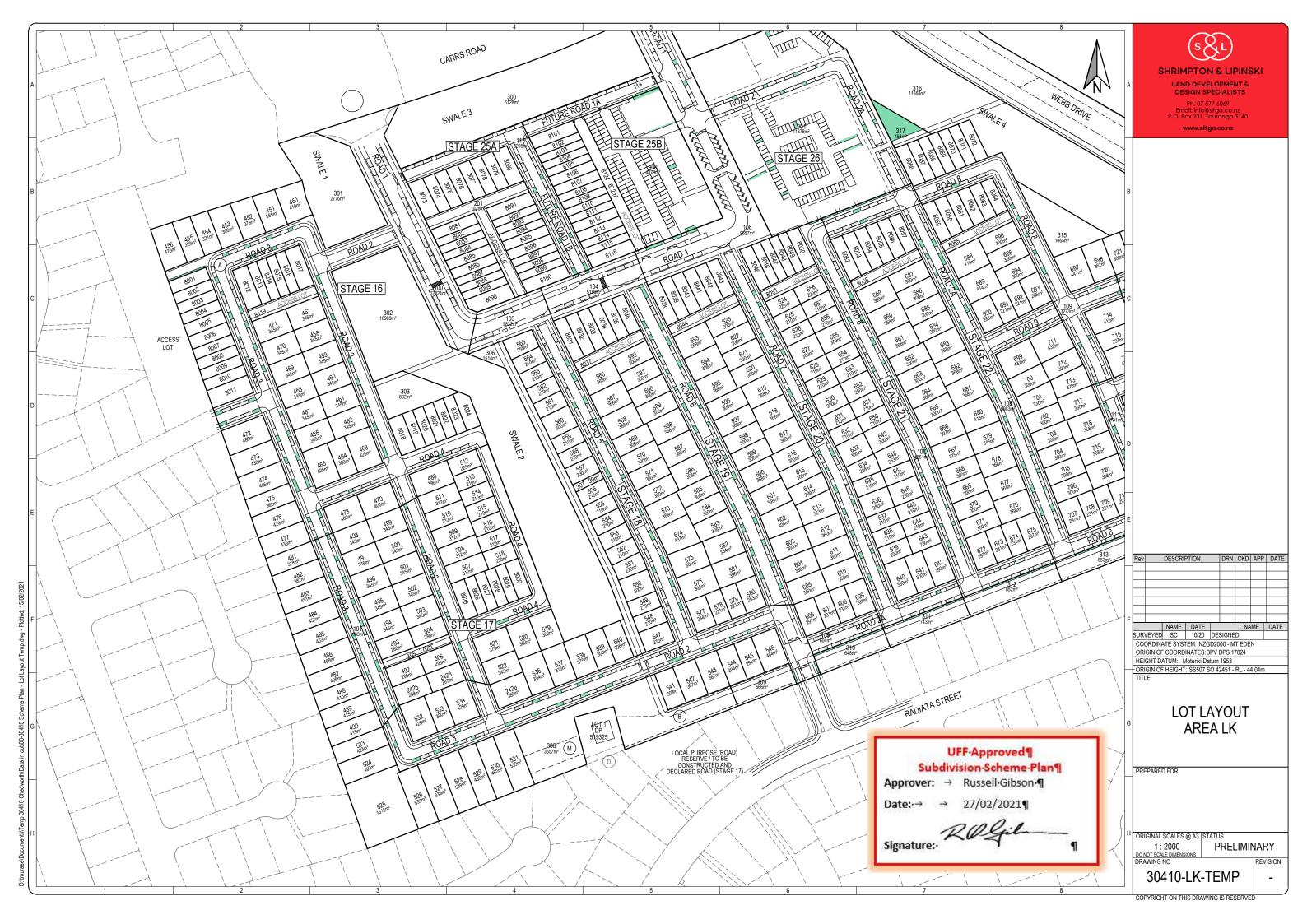
- Ultrafast Fibre Limited (UFF) confirms that UFF will be the telecommunications operator of the
 telecommunications reticulation in the proposed public roads for the Ruakura Residential Stage 16
 [Greenhill Park] Hamilton, Subdivision by Chedworth Properties Ltd. (the "Subdivision") Lot 702, DP
 534481, to provide network connections to Lot 450 through to Lot 480, and Lots 8001 through to
 8024 in the Subdivision (the "Reticulation").
- 2. The Reticulation is now installed in accordance with:
 - (a) the requirements and standards set by the Hamilton City Council and advised to UFF via the Council's website; and
 - (b) the requirements of the Telecommunications Act 2001 and all other applicable laws, regulations and codes (as amended).
- 3. The Reticulation has been installed by Broadspectrum Limited to UFF's satisfaction, for the specific subdivision lots detailed on the "final" Scheme Plan as attached, with UFF remaining the owner, operator and maintainer of the Reticulation.
- 4. The attached "final" Scheme Plan must match your submission to the Hamilton City Council and must have the UFF stamp of 'Approval' accompanied by sign-off. Any additional lots created after initial deployment of multi-duct/fibre infrastructure will be chargeable.
- 5. One or more retail service providers will be available to supply telecommunications services over the completed Reticulation when service is available, provided that UFF shall not be responsible if the retail service provider's offer to supply such telecommunications services or the number of such providers varies from time to time.

SIGNED for and on behalf of **ULTRAFAST FIBRE LIMITED** by:

Signature:

Name: Russell Gibson

Date: 27th of February 2022





Completion Certificate

To: Chedworth Properties Limited

From: Paul Bird

Cc: Barry Pearson

Date: 29 November 2021

SUBJECT: Greenhill Park Subdivision – Stage 16 (First Gas Distribution Network)



MESSAGE:

This Completion Certificate confirms that the First Gas Distribution Network installed at the above-mentioned development, has been laid, tested and commissioned in accordance with First Gas Technical Standards and relevant Gas Regulations.

Regards

Paul Bird

Distribution Accounts Manager - New Developments

Firstgas

First Gas | Level 6, Resimac House | 45 Johnston St | Wellington | 6011 **DDI** 04 979 5367 | **M** 027 531 0060 | **firstgas**.co.nz



23 November 2021 Ref: 8579

PRODUCER STATEMENT FOR STREET LIGHTING

Project: Greenhill Park Stage 16, Subdivision

Location: Watkins Street, Chartwell, Hamilton

The lighting for this Project has been designed to comply with the New Zealand standard AS/NZS1158.1.3.2020 for PR4 classified road for Roads 2, 2A, 3 and road 4, based on Low risk and activity and V4 for Road 1 using Perfectlite and AGI32 lighting design software and in conjunction with the Hamilton City Councils Code of Practice and RITS Code of Practice.

Product The P Category luminaire is a Visulo Mini Stork LED 16.6W, 1900 Lumens and for V

Category Road a Mini Stork Opt20, LED 39.6W, 4700 Lumen with the lighting column and outreach arm being manufactured from steel which is hot dipped galvanised

after fabrication and then coated with a 10 year warranty paint finish

Lifetime The luminaire have an economic life of 15-20 years where normal maintenance is carried

out. The pole and outreach have an economic life of 50 years.

Yours Faithfully IBEX INTERNATIONAL LIMITED

MERRITT STRICKETT

Account Manager - Roadway M +64 21 220 1291 T +64 9 915 1083

merritts@ibexlighting.com

IBEXLIGHTING.COM



DESIGN CERTIFICATE INFRASTRUCTURE/ LAND DEVELOPMENT

ISSUED BY: Merritt C Strickett.

TO: Chedworth Properties Ltd

TO BE SUPPLIED TO: Hamilton City Council

IN RESPECT OF: Greenhill Park Stage 16, Hamilton

AT: Watkins Street, Chartwell, Hamilton

Merritt C Strickett has been engaged by Chedworth Properties Ltd

To provide Street Lighting Design to AS/NZS1158 Standard and to Hamilton City Councils Code of

Practice and RITS code of practice.

in respect of the infrastructure/land development described above.

Drawing references - REF 8579

I Merritt C Strickett have the qualifications and experience relevant to this project as set out herein and have designed the subject works and confirm that the design is to current good engineering practice, and that it satisfies all relevant Resource Consent conditions, relevant TA requirements, and applicable codes and standards. My company holds professional indemnity insurance in the sum of \$5,000,000.00

Qualifications and experience

NZIHT Workshop, 34 years' experience in Street lighting design.

Efficient Road Lighting Resource Workshop.

ae

Date: 17 November 2021

∧ E	LECTRICAL	CERTIFICATE OF COM	MPLIANCE			
		#1247-P3				
		designed to be used by licenses	delectrical workers to certify that	installations or Part inst	affations unde	r Part Lor
			the specified system of electrical			
Location Details:	Greenhill Pa	ark, Hamilton				
Contact Details:	Kerryn S Ke	errynS@ibexlighting.com				$\overline{}$
(Name and address)						
Name of Electrical	Yeti Martyn		Registration/Practising	E257490		$\overline{}$
worker:	,		licence number:			
Phone & email:		yeti@nwl.kiwi				
Name and registratio	n number					
of person(s) supervise	ed:					
Certificate of Com	pliance					
Type of work:		Addition	☐ Alteration	New work		
The prescribed electr Mains/Main earth	ical work is:	Low risk	☐ General	High-risk (Speci	No.	
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		ystem that is correctly rat	ed (where applicable)	Tyes 🔲	No	
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	s instructions att	tached. VIOLU Stork Little Broth	er LED street luminaire, 20/05/20	19		
The work has been d	one in accord	dance with a certified des	ign: Yes	TNo.		-
			attach a copy of the certified desi			
		electronic formet, og Internet lir		**************************************		
dentity Certified des	sign attached	I. Roadway Lighting Plan d	rawing.			
	Supplier Dec	laration of Conformity (SI	DoCh: Yes	No		
			ition. Also attach a copy of the SD	oC to this certificate.		
		electronic format, ag Internet lis	nk.j			
SDoC attac	nea					
	en satisfactori	ly tested in accordance with	the Electricity (Safety) Regula	tions 2010	No Ye	
Description of Work				Test Results (
Install New Street Col				Polarity		-
Install MEN Board, M Connection - Light Ri		d Earth Stake, Cad Welded	-	(Independent earth)		Ohms
Mains Cable, Mains I		others.		Earth Continuity:	0.0	
Livened by others.	<i>. </i>			Bending:	0.0	Ohms
				Fault Loop impedance	1.0	Ohms
				Other (specify):		
Provident and a state of a second			alle and all all and all all and all all and all all all and all all all all all all all all all al		-# C	
	Control of the Contro		ribed electrical work to w		of Compli	ance
applies has been don	Philips	nd safety, and the informa	tion in the certificate is co	12/2021		
ertifier's signature:	7011/11/1		Date:	12/2021		
CUST	OMER COPY - T	HIS IS AN IMPORTANT DOCUM	ENT AND SHOULD BE RETAINED F	OR A MINIMUM OF 7 Y	EARS	



#1247-P3 Page 1 of 2

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#1247-P4 Page 1 of 2

↑ E	ECTRICAL	CERTIFICATE OF COM	MPLIANCE			
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		recare ID No.: L	delectrical workers to certify that	australizations or Part inst	allations under Part I	Lot
			the specified system of electrical		ENDONO MINES PART	100
Location Details:	Greenhill Pa	ark, Hamilton- Stage 16				
Contact Details:	Kerryn S Ke	errynS@ibexlighting.com				\neg
(Name and address)	8					
Name of Electrical	Yeti Martyn		Registration/Practising	E257490		$\overline{}$
workers			licence number:			_
Phone & email:		yeti@nwl.kiwi				
Name and registration	n number					\Box
of person(s) supervise	ed:					
Certificate of Com	pliance					
Type of work:		Addition	☐ Alteration	New work		
The prescribed electri Mains/Main earth	cal work is:	Low risk	☐ General	High-risk (Speci	No	_
A DESCRIPTION OF THE PARTY OF	5		2000 FZ n			_
Means of compliance		Part 1 of AS/NZS : code of practice were rec	and the second s	2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1		
			ntaken 13/12/2021 to 14/1			_
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		ystem that is correctly rat			140	
J <u>an</u> 10 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		this certificate relates tha	t are safe to connect to a p	power supply?		
All Parts (spe			F2	7.0		_
The work relies on m			☑ Yes □	No		
물리가 하다는 것 같아. 이 경기 (4.00년) 사람이 없었다.		uding name, date and version. A electronic format, eg internet lir	lea attach a copy of manufacturer sk-)	's mitructions to this ca	rificats.	
			er LED street luminaire, 20/05/20	19		
Link						
The work has been do	one in accord	dance with a certified des	ign: Yes	No		
		5 [[[[[[[[[[[[[[[[[[[attach a copy of the certified desi	gn to this certificate.		
		Doodwoy Lighting Dlon de				_
unk:	sign allacheu	. Roadway Lighting Plan di	rawing.			
	Supplier Dec	laration of Conformity (SI	DoCh: Ves]No		
			ition. Also attach a copy of the SD	oC to this certificate.		
		electronic format, ag Internet lic	sk.J			
Identity SDoC attach	ned					
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Install New Street Colu) Head	lt lt	Polarity	provide values	-
		Earth Stake, Cad Welded		(Independent earth):		
Connection - Light Ris Mains Cable, Mains II		a tha a va		Inpulation resistance:		hms
Livened by others.	istaliation by	others.	1	Earth Continuity:		hms
2.7000 27 010.0.				Bonding	-	hms
			-	Fault Loop impedance	Of	hms
				Other (specify):		
By signing this docum	ent I certify	that the completed preso	ribed electrical work to w	hich this Certificate	of Compliance	
applies has been don	e lawfully an	nd safely, and the informa	ition in the certificate is co		TATEMEN STOCKED O	_00
Certifier's signature:	SHAM!		Date: 17/	12/2021		
Certiner's signature: L	2-1119		Date:			_
cust	DMER COPY - T	HIS IS AN IMPORTANT DOCUME	ENT AND SHOULD BE RETAINED F	OR A MINIMUM OF 7 Y	EARS	



#1247-P5 Page 1 of 2

△ E	LECTRICAL	CERTIFICATE OF CON	APLIANCE		
(C)		#1247-P6		100	
		n designed to be used by licensed	electrical workers to certify that	installations or Part inst.	allations under Part 1 or
			the specified system of electrical		
Location Details:	Greenhill Pa	ark, Hamilton			
Contact Details:	Kerryn S Ke	errynS@ibexlighting.com			
(Name and address)	8				
Name of Electrical	Yeti Martyn	1	Registration/Practising	E257490	
worker:			licence number:		
Phone & email:		yeti@nwl.kiwi			
Name and registratio	n number				
of person(s) supervise	ed:				
Certificate of Com	pliance	-			
Type of work:		☐ Addition	☐ Alteration	New work	
The prescribed electri Mains/Main earth	ical work is:	Low risk	☐ General	High-risk (Speci	N/s
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Specify type of suppl					
		ystem that is correctly rat	ed (where applicable)	Yes 🔲	No
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All Parts (spe					
The work relies on m		s instructions:	✓ Yes □	TNo.	
			iso attach a copy of manufacturer	-	etificats:
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	instructions att	tached. VIOLU Stork Little Brothe	er LED street luminaire, 20/05/20	19	=
The work has been do	one in accor	dance with a certified des	ign: Yes	TNo.	
			attach a copy of the certified desi	100	
		electronic formet, og Internet lin		**************************************	
Certified des	sign attached	d. Roadway Lighting Plan dr	awing.		
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			tion. Also attach a copy of the SD	oC to this certificate.	
		electronic format, ag Internet lin	k.j	11.00001.3001.0000	
SDoC attack	ned				
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Description of Work		ry tested in accordance with	ine electricity (parety) negati		provide values)
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,		d Earth Stake, Cad Welded	1	(Independent earth):	
Connection - Light Ris Mains Cable, Mains I		, others	1	Injulation resistance:	Ohms
Livened by others.	notanation by	outois.	-	Earth Continuity:	0.0 Ohms 0.0 Ohms
_				Bending: Fault Loop impedance	0.0 Ohms
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				Other (specify):	
	Control of the Contro		ribed electrical work to wi		of Compliance
applies has been don	e lawfully ar	nd safely, and the informa	tion in the certificate is co		
ertifier's signature:	9017 M		Date: 15/	12/2021	
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3.00					
3.00					



#1247-P6 Page 1 of 2

∧ E	LECTRICAL	CERTIFICATE OF CO	MPLIANCE			
		#1247-P7				
		recate ID No.: Legislater in designed to be used by licenses	d electrical workers to certify that	instaliations or Part inst	affations unde	er Part Lor
			the specified system of electrical			
Location Details:	Greenhill Pa	ark, Hamilton				
Contact Details:	Kerryn S Ke	errynS@ibexlighting.com				
(Name and address)						
Name of Electrical	Yeti Martyn		Registration/Practising	E257490		
workers			licence number:			
Phone & email:		yeti@nwl.kiwi				
Name and registratio	n number					
of person(s) supervise	ed:					
Certificate of Com	pliance					
Type of work:		☐ Addition	☐ Alteration	New work		
The prescribed electr Mains/Main earth	ical work is:	Low risk	☐ General	High-risk (Spec	ily):	
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The work relies on m		instructions:	✓ Yes □	TNo.		
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	s instructions att	ached. VIOLU Stork Little Broth	ner LED street luminaire, 20/05/20	19		
The work has been d	one in accord	dance with a certified des	sign: Yes	TNo.		
			attach a copy of the certified desi			
		electronic formet, og Internet li		Ball and the property of the second		
Certified des	sign attached	. Roadway Lighting Plan d	lrawing.			
The work relies on a	Supplier Dec	laration of Conformity (S	DoC): Yes	No		
If yes - identify the SDoC in	cluding name, d	ate and persion OR EESS registre	ation. Also attach a copy of the SD	oC to this certificate.		
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SDoC attack	nea					
	en satisfactoril	y tested in accordance with	the Electricity (Safety) Regula	tions 2010	No VY	96
Description of Work		1 100000		Test Results (
Install New Street Col				Polarity		-
Install MEN Board, M Connection - Light Ri		I Earth Stake, Cad Welded	1	(Independent earth)	-	Ohms
Mains Cable, Mains I		others.		Insulation resistance: Earth Continuity:	0.0	
Livened by others.	,		1	Bending:	0.0	Ohms
			1	Fault Loop impedance	5.0	Ohms
				Other (specify):		- Committee
Providente abla de con			- the defendant week to de-		-4.5	
	TO SECURE A		cribed electrical work to w		of Compli	ance
applies has been don	Philips	id safely, and the informs	ation in the certificate is co	12/2021		
ertifier's signature:	7019/19		Date:	12/2021		
cust	OMER COPY - T	HIS IS AN IMPORTANT DOCUM	ENT AND SHOULD BE RETAINED F	OR A MINIMUM OF 7 Y	EARS	



#1247-P7 Page 1 of 2

Location Details:	form has been Z af AS/NZS 30	#1247-P8			
Location Details:	form has been Z af AS/NZS 30	PICATE ID NO.: L		19	
Location Details: Contact Details:	2 at AS/N25 30	designed to be used by licensed	electrical workers to certify that	australizations or Part inst	effations under Part 1 or
Contact Details:			the specified system of electrical		entroit most raint of
Contact Details:	Greenhill Pa	rk, Hamilton- Stage 16			
74/2001/1000/01/2019/01/01/01/01/01/01/01/01/01/01/01/01/01/	Kerryn S Ke	rrynS@ibexlighting.com			
Name of Electrical	Yeti Martyn		Registration/Practising	E257490	
workers			licence number:		
Phone & email:		yeti@nwl.kiwi			
Name and registration	number				
of person(s) supervised	li				
Certificate of Comp	liance				
Type of work:		☐ Addition	☐ Alteration	New work	
The prescribed electric Mains/Main earth	al work is:	Low risk	☐ General	High-risk (Speci	Mr.
231777 - 287 - 74 - 277 - 287 - 287 - 287		P	[7]	Caraller Control	
Means of compliance:	e alectrical	Part 1 of AS/NZS 3 code of practice were req	Control of the Contro	2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	7
			13/12/2021 to 14/1		
		onnect to a power supply	Company of the compan	TNo.	
Specify type of supply			t Lites L	1110	
	101 V 1 V 1 V 1 V 1		ed forboss construction	Tyes 🔲	No
		stem that is correctly rate			140
		his certificate relates tha	t are safe to connect to a p	power supply?	
All Parts (spec		V1000000000000	F2	40.0	
The work relies on mar			✓ Yes □	No	2
물리가 하다는 것은 것이 없는 일본 그렇게 있었습니다.		없었게 하다 하다 하는데 그렇게 되어 있었다. [2] 이번	so attach a copy of manufacturer	's instructions to this car	rtificats.
		ectoric format, edit terrellin ached. VIOLU Stork Little Brothe	r LED street luminaire, 20/05/20	19	
(inic					
The work has been don	ne in accord	lance with a certified desi	gn: Yes	No	
If yes - identify the certified	design includin	g name, date and version. Also a	ittach a copy of the certified desi	gn to this certificate.	
		electronic formet, eg Internet lin			
unic Certified design	gn attached.	Roadway Lighting Plan dr	awing.		
A STATE OF THE STA	applier Decl	aration of Conformity (SD	och: Tyes [No	
			tion. Also attach a copy of the SD	-1 000	
(Or provide reference to read	By accessible	electronic format, ag Internet lin			
Identify SDoC attached	ed				
Link					
	satisfactoril	y tested in accordance with	the Electricity (Safety) Regula		
Description of Work: Install New Street Colur	nn with LED	Head		Polarity	provide values)
		Earth Stake, Cad Welded		(Independent earth):	
Connection - Light Risk	(•		Inculation resistance:	Ohms
Mains Cable, Mains Ins	stallation by	others.	it.	Earth Continuity:	0.0 Ohms
Livened by others.				Bonding	0.0 Ohms
				Fault Loop impedance	Ohms
				Other (specify):	
		that the completed presc	rihed electrical work to wi	high this Cortificate	of Compliance
By cianing this riocume	nt i certifu				or comprision
By signing this docume					
		d safely, and the informa	Contract to the Contract of th	12/2021	



#1247-P8 Page 1 of 2

	ECTRICAL	CERTIFICATE OF CON	APLIANCE		
		#1247 - P9		F .	
		rIPICATE ID No.:	delectrical workers to certify that	australizations or Part inst	allatinos under Part I o
			the specified system of electrical		anabata masa Pare Lo
Location Details:	Greenhill Pa	ark, Hamilton- Stage 16			
Contact Details:	Kerryn S Ke	errynS@ibexlighting.com			
(Name and address)					
Name of Electrical	Yeti Martyn		Registration/Practising	E257490	
workers			licence number:		
Phone & email:		yeti@nwl.kiwi			
Name and registration	n number				
of person(s) supervise	ed:				
Certificate of Com	pliance				
Type of work:		Addition	☐ Alteration	New work	
The prescribed electric Mains/Main earth	cal work is:	Low risk	☐ General	High-risk (Speci	Nr.
101100 - 100 - 10 - 10 - 10 - 10 - 10 -		-		DE LEEUW	
Means of compliance		Part 1 of AS/NZS	and the second s	2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	
		code of practice were req	uired:		
			CONTRACTOR OF THE CONTRACTOR O	7No	
		connect to a power supply	yr L Yes L	Tuo	
Specify type of suppl			and the second s		51-
		ystem that is correctly rat			No
J. 100. (100 a) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		this certificate relates tha	t are safe to connect to a p	power supply?	
All Parts (spe	cify) L		man COO Care		
The work relies on m	anufacturers	s instructions:	✓ Yes □	No	
요즘 하이는 것 같아서 게 되는 것이다면서.		그렇게 하는 것이 하다고 하는데 없는데 없었다.	ke attach a copy of menufacturer	's instructions to this ca	rtificats.
		electronic format, eg internet lin tached, VIOLU Stork Little Brothe	er LED street luminaire, 20/05/20	10	
Link:	mondono an	adrica. Violo Glori Little Brotin	or EED off corrumnance, E0/00/20	10	
The work has been do	one in accord	dance with a certified des	ign: Yes	No	
If yes - identify the certifie	f design includir	ng name, date and version. Also	attach a copy of the certified desi	gn to this certificate.	
		electronic formet, og Internet lin			
17 C C C C C C C C C C C C C C C C C C C	sign attached	I. Roadway Lighting Plan di	rawing.		
The work relies on a	Supplier Dec	laration of Conformity (SI	DoCl: Ves	TNo.	
			tion. Also attach a copy of the SD	-1 000	
	A STATE OF THE PARTY OF THE PAR	electronic format, ag Internet lin		oc to the constitution	
Identify SDoC attack	ned				
Link					
The installation has bee	n satisfactoril	ly tested in accordance with	the Electricity (Safety) Regula		
Description of Work		Dilload			provide values)
Install New Street Coll Install MFN Board M		d Earth Stake, Cad Welded		Polarity (Independent earth):	
Connection - Light Ris		z Lartir Otano, oda Woldou		Insulation resistance:	Ohn
Mains Cable, Mains I	nstallation by	others.	T I	Earth Continuity:	0.0 Ohn
Livened by others.			1	Bending:	0.0 Ohr
				Fault Loop impedance	Ohn
				Other (specify):	
	ant I cortifu	that the completed serve	without placeteless work to un	high this Costilionto	of Compliance
Purcingling this docum					di Compilance
		na serent, end the miletine	and the first terminal and the second second		
	Chilly M.		Date:		
				hich this Certificate	of Compliance



#1247 - P9 Page 1 of 2

	LECTRICAL	CERTIFICATE OF COR	MPLIANCE		
		#1247-P10)	P	
		n designed to be used by licenses	d electrical workers to certify that	installations or Part inst	illations under Part Lor
			the specified system of electrical		motorio mado Parez de
Location Details:	Greenhill Pa	ark, Hamilton- Stage 16			
Contact Details:	Kerryn S Ke	errynS@ibexlighting.com			
(Name and address)					
Name of Electrical	Yeti Martyn		Registration/Practising	E257490	
workers			licence number:		
Phone & email:		yeti@nwl.kiwi			
Name and registratio	n number				
of person(s) supervise	ed:				
Certificate of Com	pliance				
Type of work:		Addition	☐ Alteration	New work	
The prescribed electric Mains/Main earth	cal work is:	Low risk	☐ General	High-risk (Speci	W.
10 1 10 10 10 10 10 10 10 10 10 10 10 10	J	T	2000 [7] 0	2000	
Means of compliance		Part 1 of AS/NZS code of practice were rec	and the second s	2 (2 (1 (1 (1 (2 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1	
			rtaken 13/12/2021 to 14/12		
		connect to a power supply	CONTRACTOR OF THE PARTY OF THE	TNo	
Specify type of suppl			y: Lites L	1110	
			and the transmission of the	Tyes 🔲	No
		ystem that is correctly rat			140
- Carl (100 and 100 an		this certificate relates tha	it are safe to connect to a p	ower supply?	
All Parts (spe			F2 -	700	
The work relies on m			✓ Yes □	Na	
물리가 하지 않아 가는 것이 가는 그렇게 되었다.		Suding name, date and version. A electronic format, eg internet li	Visa attach a copy of manufacturer	's anstructions to this car	tiscats.
			er LED street luminaire, 20/05/201	19	
Link					
The work has been d	one in accord	dance with a certified des	sign: Yes	No	
		어디어 사람들이 있는 아이를 하게 되었다면 하다 하다 그 같은데	attach a copy of the certified desig	py to this certificate.	
		electronic formet, eg Internet le			
unk:	sigii allacileu	d. Roadway Lighting Plan d	rawing.		
A STATE OF THE STA	Supplier Dec	claration of Conformity (Si	DoCl: Yes]No	
		하는 그 남자를 살아 하는데 없었다면 하게 하라다.	ation. Also attach a copy of the SD:	oC to this certificate.	
		electronic format, ag Internet lic	nk.)		
Identify SDoC attack	ned				
Link					
	1.00.00.00.00	C. al. at Advantage of the Co.	and the second second second second	17	Z
The installation has been		ly tested in accordance with	the Electricity (Safety) Regula		No Yes
The installation has been Description of Work	1		the Electricity (Safety) Regula	Test Results (No Yes provide values)
Description of Work Install New Street Col	umn with LED				
Description of Work Install New Street Col Install MEN Board, M Connection - Light Ri	umn with LEC ain Earth and sk	D Head d Earth Stake, Cad Welded		Test Results (
Install New Street Col Install MEN Board, M Connection - Light Ri Mains Cable, Mains I	umn with LEC ain Earth and sk	D Head d Earth Stake, Cad Welded		Test Results () Polarity (Independent earth)	Ohms 0.0 Ohms
Description of Work Install New Street Col Install MEN Board, M Connection - Light Ri	umn with LEC ain Earth and sk	D Head d Earth Stake, Cad Welded		Test Results (Polarity (Independent earth) Insulation resistance:	provide values) Ohms
Install New Street Col Install MEN Board, M Connection - Light Ri Mains Cable, Mains I	umn with LEC ain Earth and sk	D Head d Earth Stake, Cad Welded		Test Results (Polarity (Inclependent earth) Inpulation resistance: Earth Continuity:	Ohms On Ohms
Install New Street Col Install MEN Board, M Connection - Light Ri Mains Cable, Mains I	umn with LEC ain Earth and sk	D Head d Earth Stake, Cad Welded		Test Results () Polarity (inclined dent earth) Inculation resistance Earth Continuity: Bending:	Ohms Ohms Ohms Ohms Ohms Ohms
Install New Street Col Install MEN Board, M Connection - Light Ri Mains Cable, Mains I Livened by others.	umn with LEC ain Earth and sk nstallation by	D Head d Earth Stake, Cad Welded v others.		Test Results () Polarity [Independent earth) Inpulation resistance: Earth Continuity: Bending: Finalt Loop impedance Other (specify):	Ohms 0.0 Ohms 0.0 Ohms Ohms Ohms
Install New Street Col Install MEN Board, M Connection - Light Ri Mains Cable, Mains I Livened by others.	umn with LEC ain Earth and sk nstallation by	D Head d Earth Stake, Cad Welded of others. that the completed presi	cribed electrical work to wh	Test Results () Polarity [Independent earth) Inpulation resistance: Earth Continuity: Bending: Finalt Loop impedance Other (specify): high this Certificate	Ohms 0.0 Ohms 0.0 Ohms Ohms Ohms
Install New Street Col Install New Street Col Install MEN Board, M Connection - Light Ri Mains Cable, Mains I Livened by others.	umn with LEC ain Earth and sk nstallation by	D Head d Earth Stake, Cad Welded of others. that the completed presi	cribed electrical work to whation in the certificate is co	Test Results () Polarity [Independent earth) Inpulation resistance: Earth Continuity: Bending: Finalt Loop impedance Other (specify): high this Certificate	Ohms 0.0 Ohms 0.0 Ohms Ohms Ohms



#1247-P10 Page 1 of 2

CA R	ECIMICAL	CERTIFICATE OF COM	APLIANCE			
RI NI		#1247-P11		P		
		recate ID No.:	delectrical workers to certify that	installations or Part inst	ellations under	Part Lor
			the specified system of electrical			William.
Location Details:	Greenhill Pa	ark, Hamilton- Stage 16				
Contact Details:	Kerryn S Ke	errynS@ibexlighting.com				
(Name and address)						
Name of Electrical	Yeti Martyn		Registration/Practising	E257490		
workers	,		licence number:			
Phone & email:		yeti@nwl.kiwi				
Name and registratio	n number					
of person(s) supervise	ed:					
Certificate of Com	pliance					
Type of work:		Addition	☐ Alteration	New work		
The prescribed electric Mains/Main earth	cal work is:	Low risk	General	High-risk (Speci	Nr.	
131177 - 130 - 12 - 12 - 12 - 12 - 12	5	Part 1 of AS/NZS	3000 Part 2 of AS/N2S	2000		
Means of compliance Additional Standards		code of practice were rec	The state of the s	2 (2 (1 (1 (1 (2 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1		
			rtaken: 13/12/2021 to 14/12			
		connect to a power supply	TO THE RESERVE OF THE PARTY OF]No		7.7
Specify type of suppl						
		ystem that is correctly rat	ed (where applicable)	Yes 🔲	No	
		하늘까지 하기 있다는 생겨 보는 사람들이다.	t are safe to connect to a p	ower supply?		
All Parts (spe	200 M 200 M					
The work relies on m		s instructions:	✓ Yes □	TNo.		
			lea attach a copy of manufacturer	-	tificats.	
		electronic format, eg Internet liv			300000	
	instructions att	tached. VIOLU Stork Little Broth	er LED street luminaire, 20/05/201	19		
The work has been d	one in accord	dance with a certified des	ign: Yes	1No		_
			attach a copy of the certified desig	1.01		
		electronic formet, og Internet lir		**************************************		
Certified des	sign attached	I. Roadway Lighting Plan d	rawing.			
The work relies on a	Supplier Dec	laration of Conformity (SI	DoC): Yes	No		
If you - identify the SDoC in	cluding name, d	late and sension OR 6855 registra	tion. Also attach a copy of the SD:	oC to this certificate.		
		electronic format, ag Internet lic	sk.j			
SDoC attack	ied					
	es satisfactoril	ly tested in accordance with	the Electricity (Safety) Regula	tions 2010	No Ye	
				Test Results (
Description of Work			10	Polarity		
Install New Street Col	umn with LED		- 1			
Install New Street Col Install MEN Board, M	umn with LED ain Earth and	D Head d Earth Stake, Cad Welded		(Independent earth)		Ohmi
Install New Street Col	umn with LED ain Earth and sk	d Earth Stake, Cad Welded		Inculation resistance:	0.0	Ohms
Install New Street Col Install MEN Board, M Connection - Light Ri	umn with LED ain Earth and sk	d Earth Stake, Cad Welded		Inpulation resistance: Earth Continuity:	0.0	Ohms
Install New Street Col Install MEN Board, M Connection - Light Ri Mains Cable, Mains I	umn with LED ain Earth and sk	d Earth Stake, Cad Welded		Insulation resistance: Earth Continuity: Bonding:	0.0	Ohms Ohms
Install New Street Col Install MEN Board, M Connection - Light Ri Mains Cable, Mains I	umn with LED ain Earth and sk	d Earth Stake, Cad Welded		Earth Continuity: Bending: Fault Loop Impedance		Ohms
Install New Street Col Install MEN Board, M Connection - Light Ri Mains Cable, Mains I Livened by others.	umn with LEC ain Earth and sk nstallation by	d Earth Stake, Cad Welded others.		Injuration resistance Earth Continuity: Bending: Fiealt Loop Impedance Other (specify):	0.0	Ohms Ohms Ohms
Install New Street Col Install MEN Board, M Connection - Light Ri Mains Cable, Mains I Livened by others.	umn with LEC ain Earth and sk nstallation by	d Earth Stake, Cad Welded others.	ribed electrical work to wh	Injulation resistance: Earth Continuity: Bending: Fiealt Loop Impedance Other (specify): high this Certificate	0.0	Ohms Ohms Ohms
Install New Street Col Install MEN Board, M Connection - Light Ri Mains Cable, Mains I Livened by others.	umn with LEC ain Earth and sk nstallation by	d Earth Stake, Cad Welded others.	ribed electrical work to wi	Injulation resistance: Earth Continuity: Bending: Fiealt Loop Impedance Other (specify): high this Certificate	0.0	Ohms Ohms Ohms



#1247-P11 Page 1 of 2

	ECIRICAL	CERTIFICATE OF CON	APLIANCE			
		#1247-P12		F .		
/ V / N		represent to be used by licensed	electrical workers to certify that	installations or Part inst	ellations unde	e Part Lor
			the specified system of electrical			
Location Details:	Greenhill Pa	ark, Hamilton- Stage 16				
Contact Details:	Kerryn S Ke	errynS@ibexlighting.com				
(Name and address)						
Name of Electrical	Yeti Martyn		Registration/Practising	E257490		
workers			licence number:			
Phone & email:		yeti@nwl.kiwi				
Name and registration	n number					
of person(s) supervise	ed:					
Certificate of Com	pliance					
Type of work:		Addition	☐ Alteration	New work		
The prescribed electri Mains/Main earth	cal work is:	Low risk	☐ General	High-risk (Speci	N/s	
13.11.07 (1997) 2 (1973) 1974 (1974)		Part 1 of AS/NZS	3000 Part 2 of AS/N2S	2000		
Means of compliance Additional Standards		code of practice were req	Control of the second s	2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1		
			rtaken: 13/12/2021 to 14/12			
		connect to a power supply	Committee and the committee of the commi]No		
Specify type of supply		The second second				
		ystem that is correctly rat	ed (where applicable)	Yes 🔲	No	
		하늘 없는 마시를 모든 생일을 보고 있다.	t are safe to connect to a p	oower supply?		
All Parts (spe						
The work relies on m		instructions:	✓ Yes □	7No		
			iso attach a copy of manufacturer	's instructions to this car	rtificats.	
		electronic format, eg Internet lir		AND PERSONS CONTRACTOR		
	instructions att	ached. VIOLU Stork Little Brothe	er LED street luminaire, 20/05/201	19		
The work has been do	one in accord	dance with a certified des	ign: Yes	TNo.		_
			attach a copy of the certified desig	100		
		electronic formet, og Internet lin		**************************************		
Certified des	sign attached	l. Roadway Lighting Plan di	awing.			
The work relies on a !	Supplier Dec	laration of Conformity (SI	DoC): Yes	No		
If yes - identify the SDoC in	cluding name, d	late and sension OR EESS registra	tion. Also attach a copy of the SD:	oC to this certificate.		
		electronic format, ag Internet lin	(k.)			
SDoC attach	iea					
	n satisfactoril	ly tested in accordance with	the Electricity (Safety) Regula	tions 2010	No Ye	6
Description of Work		·		Test Results (
			- 1	Polarity		
Install New Street Colu		J Earth Stake, Cad Welded		(Independent earth):		
Install MEN Board, M		•	1	Internal Continues and address of the second		Ohmo
Install MEN Board, M Connection - Light Ris	sk	others.	Į.	Injulation resistance:	0.0	Ohms
Install MEN Board, M	sk	others.		Earth Continuity:	0.0	Ohms
Install MEN Board, M Connection - Light Ris Mains Cable, Mains I	sk	others.		Earth Continuity: Bending:	0.0	Ohms Ohms
Install MEN Board, M Connection - Light Ris Mains Cable, Mains I	sk	others.		Earth Continuity: Bending: Feult Loop Impedance		Ohms
Install MEN Board, M Connection - Light Ris Mains Cable, Mains I Livened by others.	sk nstallation by			Earth Continuity: Bonding: Feath Loop Impedance Other (specify):	0.0	Ohms Ohms Ohms
Install MEN Board, M Connection - Light Ris Mains Cable, Mains In Livened by others.	sk nstallation by	that the completed presc	ribed electrical work to wi	Earth Continuity: Bending: Feat Loop Impedance Other (speofy): high this Certificate	0.0	Ohms Ohms Ohms
Install MEN Board, M Connection - Light Ris Mains Cable, Mains In Livened by others.	sk nstallation by	that the completed presc	ribed electrical work to wi	Earth Continuity: Bending: Feat Loop Impedance Other (speofy): high this Certificate	0.0	Ohms Ohms Ohms



#1247-P12 Page 1 of 2

		CERTIFICATE OF CON	//PLIANCE		
CON THE Part		#1247-P13		F .	
Part		recate ID No.:	electrical workers to certify that	installations or Part inst	illations under Part Lor
Location Details:			the specified system of electrical		and the same of th
. 300 000 1150 10 10 10 10 10 10 10 10 10 10 10 10 10	Greenhill Pa	ark, Hamilton- Stage 16			
Contact Details:	Kerryn S Ke	errynS@ibexlighting.com			
(Name and address)	3				
Name of Electrical	Yeti Martyn		Registration/Practising	E257490	
workers			licence number:		
Phone & email:		yeti@nwl.kiwi			
Name and registration	number				
of person(s) supervise	d:				
Certificate of Comp	oliance				
Type of work:		Addition	☐ Alteration	New work	
The prescribed electric Mains/Main earth	al work is:	Low risk	☐ General	High-risk (Speci	N/L
10 10 00 000 00 000 000 10 10 10 10 10 1		П п	1000 M nort 2 of 46 A126	2000	
Means of compliance:	e alactrical	Part 1 of AS/NZS : code of practice were req	and the second s	2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	
			ntaken: 13/12/2021 to 14/1		
		connect to a power supply	Committee of the commit	TNo	
Specify type of supply			t Lites L	1110	
	100 W. U. V.		-41. L	Tyes 🔲	No
		ystem that is correctly rat			TWG.
		this certificate relates tha	t are safe to connect to a g	ower supply?	
All Parts (spec		70000000000000000000000000000000000000	F2 F	-	
The work relies on ma			✓ Yes □	No	25
요즘 하이는 것 같은 걸 때 나는 맛이 없었다.		그렇게 하는데 하고 그렇게 되어있는 말이다.	lse attach a copy of manufacturer	's instructions to this car	tificats.
		ached, VIOLU Stork Little Brothe	er LED street luminaire, 20/05/20	19	_
Unic Unic					
The work has been do	ne in accord	dance with a certified des	ign: ✓Yes	No	
If yes - identify the certified	design includir	ng name, date and version. Also	attach a copy of the certified desi-	gn to this certificate.	
		electronic formet, eg Internet lin			
unk: Certified des	gn attached	. Roadway Lighting Plan dr	awing.		
	upplier Dec	laration of Conformity (SC	och: Yes	TNo	
			tion. Also attach a copy of the SD:	7 100	
(Or provide reference to rea	dily accessible	electronic format, ag Internet lin			
Identify SDoC attach	ed				
Link	- 72-57-57-5				7
	satisfactoril	ly tested in accordance with	the Electricity (Safety) Regula		
Description of Work: Install New Street Colu	mn with L ΕΓ) Head		Test Results (provide values)
		Earth Stake, Cad Welded		(Independent earth):	
Connection - Light Ris	k	,		Inpulation resistance:	Ohms
Mains Cable, Mains In	stallation by	others.	i l	Earth Continuity:	0.0 Ohms
				Bonding	0.0 Ohms
Livened by others.				Fault Loop impedance	Ohms
				Other (specify):	
Livened by others.	ent i certifu	that the completed presc	ribed electrical work to wi	hich this Certificate	of Compliance
Livened by others. By signing this docum	Section 1997 April 1997 April 1997		ribed electrical work to wi		of Compliance
Livened by others. By signing this docum	Section 1997 April 1997 April 1997		tion in the certificate is co		of Compliance



#1247-P13 Page 1 of 2

CA R	LECTRICAL	CERTIFICATE OF COM	MPLIANCE			
MI A MI		#1247- P1	4			
		rINCATE ID No.: L	delectrical workers to certify that	installations or Part inst.	allations unde	Part Lor
			the specified system of electrical			10000
Location Details:	Greenhill Pa	ark, Hamilton- Stage 16				
Contact Details:	Kerryn S Ke	errynS@ibexlighting.com				
(Name and address)	3					
Name of Electrical	Yeti Martyn		Registration/Practising	E257490		
worker:			licence number:			
Phone & email:		yeti@nwl.kiwi				
Name and registratio	n number					
of person(s) supervise	ed:					
Certificate of Com	pliance	Colors and Service 1				
Type of work:		Addition	☐ Alteration	New work		
The prescribed electric Mains/Main earth	cal work is:	Low risk	General	High-risk (Speci	N/A	
Means of compliance	į.	Part 1 of AS/NZS	3000 Part 2 of AS/N2S	2000		
		code of practice were rec	The second secon	2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1		
			rtaken: 13/12/2021 to 14/1			
		connect to a power supply]No		
Specify type of suppl	y system: 23	0V MEN				
		ystem that is correctly rat	ed (where applicable)	Yes 🔲	No	
Parts of the installati	on to which	this certificate relates the	t are safe to connect to a p	ower supply?		
All Parts (spe	cify)		-21 15 - 21 15 15 15 15 15 15 15 15 15 15 15 15 15	**************************************		
The work relies on m		s instructions:	✓ Yes □	No		
If yes - identify the instruct	tion manual inci	lucking name, date and version. A	ke attach a copy of manufacturer	's instructions to this car	rificats.	
		electronic format, eg Internet lik		AND MERCANCELLAND		
	instructions att	ached. VIOLU Stork Little Broth	er LED street luminaire, 20/05/20	19		
The work has been d	one in accord	dance with a certified des	ign: Yes	TNo.		_
			attach a copy of the certified desig	100		
		electronic formet, og Internet lir	(1987)	p) 100 9 100 000 001 001 000000		
Certified des	sign attached	I. Roadway Lighting Plan d	rawing.			
	Supplier Dec	laration of Conformity (SI	DoC): Yes	No		
			ition. Also attach a copy of the SD	oC to this certificate.		
		electronic format, ag Internet lis	nk.j			
SDoC attack	ned					
	en satisfactori	ly tested in accordance with	the Electricity (Safety) Regula	tions 2010	No VYe	
				Test Results (
Description of Work	ump with LEF) Head	10	Polarity		
Install New Street Col			- 11		1	
Install New Street Col Install MEN Board, M	ain Earth and	d Earth Stake, Cad Welded		(Independent earth)		Ohmi
Install New Street Col	ain Earth and sk	d Earth Stake, Cad Welded		Inpulation resistance:	0.0	Ohms
Install New Street Col Install MEN Board, M Connection - Light Ri	ain Earth and sk	d Earth Stake, Cad Welded		Inpulation resistance: Earth Continuity:	0.0	Ohms
Install New Street Col Install MEN Board, M Connection - Light Ri Mains Cable, Mains I	ain Earth and sk	d Earth Stake, Cad Welded		Insulation resistance: Earth Continuity: Bending:	0.0	Ohms Ohms
Install New Street Col Install MEN Board, M Connection - Light Ri Mains Cable, Mains I	ain Earth and sk	d Earth Stake, Cad Welded		Earth Continuity: Bending: Feuit Loop Impedance		Ohms
Install New Street Col Install MEN Board, M Connection - Light Ri Mains Cable, Mains I Livened by others.	ain Earth and sk nstallation by	d Earth Stake, Cad Welded		Injulation resistance Earth Continuity: Bending: Fealt Loop Impedance Other (specify):	0.0	Ohms Ohms Ohms
Install New Street Col Install MEN Board, M Connection - Light Ri Mains Cable, Mains I Livened by others.	ain Earth and sk nstallation by	d Earth Stake, Cad Welded others. that the completed prese	ribed electrical work to w	Injulation resistance: Earth Continuity: Bending: Feak Loop Impedance Other (specify): high this Certificate	0.0	Ohms Ohms Ohms
Install New Street Col Install MEN Board, M Connection - Light Ri Mains Cable, Mains I Livened by others.	ain Earth and sk nstallation by	d Earth Stake, Cad Welded others. that the completed prese	ribed electrical work to wi	Injulation resistance: Earth Continuity: Bending: Feak Loop Impedance Other (specify): high this Certificate	0.0	Ohms Ohms Ohms



#1247- P14 Page 1 of 2

	ECIPICAL	CERTIFICATE OF COM	MPLIANCE			
		#1247-P15	j	F .		
		represent to be used by licenses	d electrical workers to certify that	installations or Part inst	ellations unde	e Part Lor
Par			the specified system of electrical			1000
Location Details:	Greenhill Pa	ark, Hamilton- Stage 16				
Contact Details:	Kerryn S Ke	errynS@ibexlighting.com				
(Name and address)	3					
Name of Electrical	Yeti Martyn		Registration/Practising	E257490		
worker:	,		licence number:			
Phone & email:		yeti@nwl.kiwi				
Name and registration	number					
of person(s) supervise	d:					
Certificate of Com	pliance					
Type of work:		Addition	☐ Alteration	New work		
The prescribed electric Mains/Main earth	cal work is:	Low risk	☐ General	High-risk (Speci	N/s	
131177 137 74 13 33 134 134 13		Part 1 of AS/NZS	3000 Part 2 of AS/N2S	2000		
Means of compliance: Additional Standards		code of practice were rec	and the second s	2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1		
			rtaken 13/12/2021 to 14/12			
		connect to a power supply	CONTRACTOR OF THE PARTY OF THE]No		
Specify type of supply	and the second second					
		ystem that is correctly rat	ed (where applicable)	Yes 🔲	No	
		하실하다 하라고 있는 생각 보고 있다.	it are safe to connect to a p	oower supply?		
All Parts (spe						
The work relies on ma		s instructions:	✓ Yes □	7No		
			les attach a copy of manufacturer	's instructions to this car	rtificats.	
		electronic format, eg Internet lir		AND PERSONS CONTRACTOR		
	instructions att	tached. VIOLU Stork Little Broth	er LED street luminaire, 20/05/201	19		
The work has been do	one in accord	dance with a certified des	ign: Yes	TNo.		_
			attach a copy of the certified desig	100		
		electronic formet, og Internet lir		**************************************		
Certified des	ign attached	I. Roadway Lighting Plan d	rawing.			
	upplier Dec	laration of Conformity (SI	DoC): Yes	No		
			ition. Also attach a copy of the SD:	oC to this certificate.		
		electronic format, ag Internet lis	nk.j			
SDoC attach	ied					
	n satisfactorii	ly tested in accordance with	the Electricity (Safety) Regula	tions 2010	No Ye	6
Description of Work:				Test Results (
Install New Street Colu			- 1	Polarity		-
		d Earth Stake, Cad Welded	-	(Independent earth)		Ohms
) N	others.		Inculation resistance: Earth Continuity:	0.0	
Connection - Light Ris	stallation by			cann continuity:		Ohms
	nstallation by		1	Booding	0.0	Ohme
Connection - Light Ris Mains Cable, Mains Ir	nstallation by		1	Bending: Fault Loop impedance	0.0	Ohms
Connection - Light Ris Mains Cable, Mains Ir	nstallation by			Fault Loop impedance	0.0	Ohms Ohms
Connection - Light Ris Mains Cable, Mains Ir Livened by others.				Fault Loop impedance Other (specify):		Ohms
Connection - Light Ris Mains Cable, Mains Ir Livened by others.	ent i certify	that the completed press	cribed electrical work to wi	First Loop impedance Other (specify): high this Certificate		Ohms
Connection - Light Ris Mains Cable, Mains Ir Livened by others.	ent i certify	that the completed press	cribed electrical work to wi	First Loop impedance Other (specify): high this Certificate		Ohms



#1247-P15 Page 1 of 2

△ F	LECTRICAL CERTII	FICATE OF CON	MPLIANCE &	ELECTRIC	AL SAFETY CERT	TIFICATE	
	EFERENCE/CERTIFICATE ID	NO.: NWELCO	C16069/	to certify that	installations or Part Instal		Part 1 or
Location Details:	Greenhill Park			10.00			
Contact Details: (Name and address)							
Name of Electrical worker:	Yeti Martyn	ľ	Registration licence num		E257490		
Phone & email: Name and registration of person(s) supervis	on number	yn@hotmail.com					
Certificate of Con Type of work: The prescribed electr	npliance	Addition Low risk	☐ Alte	ration eral	New work High-risk (Specif	v):	
	or electrical code of		quired: 🔳 N	2 of AS/NZS 0 Yes (s			
Contains fittings that	es that prescribed ele t are safe to connect	to a power supply	-	Yes [] No		
	ly system: 230V Mains an earthing system th		and furbare appli	cable) [Yes 🗍	No	
	ion to which this cert					(1974	
The work relies on m f yes – identify the instru (Or provide reference to n	nanufacturers instruc- tion menual including name eadily accessible electronic buckers attached VIDLU Stock LI	e, date and version. A format, eg internet lir	nk.)	Yes [No 's instructions to this cen	tificate.	
Link	done in accordance w			Yes [] No		
(Or provide reference to n Identify: Confed design at	ed design including name, o eadily accessible electronic scholl Routing Lighing Plandraw	format, eg Internet lin		e certified desi	gn to this certificate.		
If yes - identify the SOoC is	Supplier Declaration including name, date and vo eadily accessible electronic	rrsion OR EESS registra	ntion. Also attach a	Yes Copy of the SO	No oC to this certificate.		
	en satisfactorily tested	in accordance with	the Electricity (5	afety) Regula	tions 2010		
Install New Stre	k: eet Column with	LED Head			Test Results (p Polanty (Independent earth):	orovide valu	es)
	ard, Main Earth	and Earth Sta	ke, Cad We	lded	Insulation resistance:	200+ N	Ohms Ohms
Connection - I Mains Cable, M	Light Risk Nains Installation	by others.			Earth Continuity: Bonding:	0.1	Ohms
Livened by oth	ers.				Fault Loop impedance Other (specify):		Ohms
By signing this docu	ment I certify that the	completed pres	cribed electrica	l work to w		of Complian	nce
	ne lawfully and safely			tificate is co			
ertifier's signature;	Fry			Date: 150	1/2022		
	Certificate ument I certify that the d to a power supply a		part of the in	Registration	/Practising	al Safety Ce	rtificate
Certifier's signature:		Certificate Issue Date:		Conne	ction Date:	02.0	
	TOMER COPY - THIS IS AN		ENT AND SHOULD	BE RETAINED	OR A MINIMUM OF 7 YE	ARS	

			IPLIANCE		
This Part		#1247-P17		F .	
Part		recate ID No.: L	electrical workers to certify that	installations or Part inst	ullations under Part I or
Location Details:			the specified system of electrical		
	Greenhill Pa	ark, Hamilton- Stage 16			
Contact Details:	Kerryn S Ke	errynS@ibexlighting.com			
(Name and address)	4				
Name of Electrical	Yeti Martyn		Registration/Practising	E257490	
worker:			licence number:		
Phone & email:		yeti@nwl.kiwi			
Name and registration	number				
of person(s) supervised	di:				
Certificate of Comp	liance				
Type of work:		Addition	☐ Alteration	New work	
The prescribed electric Mains/Main earth	al work is:	Low risk	General	High-risk (Speci	Nr.
131107 - 1977 - 2 1973 - 1974 - 1974		Part 1 of AS/NZS 3	1000 Part 2 of AS/N2S	2000	
Means of compliance: Additional Standards of	e electrical	code of practice were req	Control of the Contro	2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	11
			rtaken: 13/12/2021 to 14/1		
		onnect to a power supply	Committee of the commit]No	
Specify type of supply		The state of the s			
		stem that is correctly rate	ed (where applicable)	Tyes 🔲	No
			t are safe to connect to a p	power supply?	9,11
All Parts (spec	20 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
The work relies on ma		instructions:	✓ Yes □	7No	
			so attach a copy of menufacturer	's instructions to this car	rtificats:
		electronic format, eg Internet lin		AND MININGS CONTRACTOR	1400110
	nstructions atta	ached. VIOLU Stork Little Brothe	er LED street luminaire, 20/05/20	19	
The work has been do	ne in accord	sance with a certified desi	ign: Yes	TNo.	
			attach a copy of the certified desi		
		electronic formet, eg Internet lin		\$57.000 St. 100.000 (10.100.000)	
Certified designated	gn attached.	. Roadway Lighting Plan dr	awing.		
	upplier Ded	laration of Conformity (SD	oc): Yes	No	
			tion. Also attach a copy of the SD	oC to this certificate.	
		electronic format, ag Internet lin	k)		
SDoC attache	∌a				
	satisfactoril	v tested in accordance with	the Electricity (Safety) Regula	tions 2010	No Yes
Description of Work:		1			provide values)
Install New Street Colu				Polarity	
Install MEN Board, Ma Connection - Light Risk		I Earth Stake, Cad Welded	-	(Independent earth):	-
Mains Cable, Mains Ins		others.		Insulation resistance:	0.0 Ohms
Livened by others.	standion by	0.1.0.0.	1	Earth Continuity: Bending:	0.0 Ohms 0.0 Ohms
			1	Fault Loop impedance	Ohms
				Other (specify):	Onnis
					of Compliance
By signing this docume	20, 20, 10, 20, 10, 20, 20, 20, 20, 20, 20, 20, 20, 20, 2		tion in the certificate is co	rrect.	
By signing this docume applies has been done	20, 20, 10, 20, 10, 20, 20, 20, 20, 20, 20, 20, 20, 20, 2	ia sarety, and the intornia		1/2022	



#1247-P17 Page 1 of 2

	ECTRICAL	CERTIFICATE OF CON	IPLIANCE		
		#1247-P19		F	
		rencate ID No.: L	electrical workers to certify that	australizations or Part inst	illations under Part I or
		1000 are safe to be connected to t			and the same
Location Details:	Greenhill Pa	ark, Hamilton- Stage 16			
Contact Details:	Kerryn S Ke	errynS@ibexlighting.com			
(Name and address)					
Name of Electrical	Yeti Martyn		Registration/Practising	E257490	
workers			licence number:		
Phone & email:		yeti@nwl.kiwi			
Name and registration	n number				
of person(s) supervise	ed:				
Certificate of Com	pliance				
Type of work:		Addition	☐ Alteration	New work	
The prescribed electri Mains/Main earth	cal work is:	Low risk	General	High-risk (Speci	Nr.
13.11.07 (1997) 2 (1973) 1974 (1974)		Part 1 of AS/NZS 3	000 Part 2 of AS/N2S	2000	
Means of compliance Additional Standards		code of practice were req	The second secon	2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
		ibed electrical work under			
		connect to a power supply	CONTRACTOR OF THE PARTY OF THE	TNo.	
Specify type of supply		The second second			1
		ystem that is correctly rate	od furbore semicable) [V	Yes 🗆	No
		this certificate relates that			
All Parts (spe		tilis certificate relates tila	are sale to connect to a p	power suppry:	
이 없었다면서 살아왔다면 하는 것이다니?		To do continue	✓ Yes □	74-	
The work relies on m		s Instructions: luckeg name, date and version. Al		No	and and
물리가 하이 물건은 가장이 가는 말을 가려지겠습니다.		electronic format, eg internet lin	경영하다 하나 있다면 모든 사람이 되었다면 하는 것이 없었다.	a micraciona to tria ca	merco.
		tached. VIOLU Stork Little Brothe		19	
Unk					
		dance with a certified desi		No	
		ng name, date and version. Also a		gn to this certificate.	
		I. Roadway Lighting Plan dr			
Link	- J				
The work relies on a	Supplier Dec	daration of Conformity (SD	oC): Yes	No	
If yes - identify the SDoC in	cluding name, d	fate and sersion OR 6855 registrat	ion. Also attach a copy of the SD	oC to this certificate.	
		electronic format, ag Internet lin	kJ		
SDoC attach	iea				
	n satisfactoril	ly tested in accordance with t	he Electricity (Safetyl Benyl)	tions 2010	No Yes
Description of Work		Treate and an artist and artist artis	and the second to the second		provide values)
Install New Street Colu		O Head	1	Polarity	
		d Earth Stake, Cad Welded		(Independent earth):	
Connection - Light Ris Mains Cable, Mains I		others	Į.	Inpulation resistance:	Ohms
Livened by others.	istaliation by	Others.	-	Earth Continuity:	0.0 Ohms
			-	Bonding:	0.0 Ohms
			1	Fault Loop impedance	Ohms
				Other (specify):	
		that the completed presc			of Compliance
	Control of the Contro		the section of the second section is a second	rrect.	
	Control of the Contro	nd safely, and the informa		1/2022	
					of Compliance



#1247-P19 Page 1 of 2

Mains Cable, Mains Installation by others. Livened by others. Earth Community 0.0 Ohm: Chart	△ E	LECTRICAL	CERTIFICATE OF CON	//PLIANCE			
This form has been designed to be used by idensed electrical workers occurity that establishors or Part installations under Part 1 or Part 2 of ARS/NES 3000 or sole to be generated by the generated system of electrical supply. Greenhill Park, Hamilton-Stage 16 Contact Details: (Name and address) Name of Electrical worker: Phone & email: Name and registration number: Veti Mortry Icence number:					i i		
Location Details: Greehill Park, Hamilton-Stage 16 Contact Details: (Kerryn S Kerryn S@ibexlighting.com Name of Electrical Worker: Phone & email: Name and registration number: person(s) supervised: Certificate of Compliance: Part 1 of AS/NZS 3000 Part 2 of AS/NZS 3000 Mains/Main auth Means of compliance: Part 1 of AS/NZS 3000 Part 2 of AS/NZS 3000 Additional Standards or electrical code of practice were required. Part 2 of AS/NZS 3000 Additional Standards or electrical code of practice were required. Part 3 of AS/NZS 3000 Additional Standards or electrical work undertaken: ISTI22021 To 14712/2021 Contains fittings that are safe to connect to a power supply? Yes No Specify type of supply systems "2307 MEN" The installation has an earthing system that is correctly rated (where applicable) Parts of the installation to which this certificate relates that are safe to connect to a power supply? All Parts (specify) The work relies on manufacturers instructions: If yes - dentify the installation masual including mans, data and version. Also attach a copy of manufacturer's instructions to this certificate. If yes - dentify the certified design indusing mans, data and version. Also attach a copy of the certified design to this certificate. If yes - dentify the certified design indusing mans, data and version. Also attach a copy of the certified design to this certificate. If yes - dentify the certified design indusing mans, data and version. Also attach a copy of the certified design to this certificate. If yes - dentify the certified design indusing mans, data and version. Bo attach a copy of the certified design to this certificate. If yes - dentify the certified design attach and serabor of the certified design to this certificate. If yes - dentify the certified design attached. Roadway Lighting Plan				electrical workers an certify that	australizations or Part inst	allations unde	e Part Lor
Contact Details: [Name and address] Name of Electrical Yoti Martyn Worker: Phone & email:						enations in the	
Name of Electrical Weil Martyn Registration/Practising E257490 worker: Name and registration number of person(s) supervised:	Location Details:	Greenhill Pa	ark, Hamilton- Stage 16		200711		
Name of Electrical Yeti Martyn Registration/Practising E257490	Contact Detailer	Kerryn S Ke	errynS@ibexlighting.com				
Phone & email: Veri@nwl.kiwi Veri@nwl.kiwi Veri@nwl.kiwi Veri@nwl.kiwi Verificate of Compliance Verificate Ver							
Phone & email: yeti@nwl.kiwi yeti@nwl.kiwi	Name of Electrical	Yeti Martyn		Registration/Practising	E257490		
Name and registration number of person(s) supervised: Certificate of Compliance Type of work:	workers						
Certificate of Compliance Type of work: The prescribed electrical work is: Low risk Addition Alteration Addition Alteration New work The prescribed electrical work is: Low risk General Additional Standards or electrical code of practice were required: Additional Standards or electrical code of practice were required: Additional Standards or electrical code of practice were required: No Yes (specify) Date or range of dates that prescribed electrical work undertaken: S7/12/2021 to 14/12/2021 Contains fittings that are safe to connect to a power supply? Yes No Specify type of supply system: 230V MEN The installation has an earthing system that is correctly rated (where applicable) Yes No Parts of the installation to which this certificate relates that are safe to connect to a power supply? All Parts (specify) The work relies on manufacturers instructions: Yes No I yes No I yes No I yes No I yes I was described electrical work undertaken: If yes I was described electrical work undertaken: Yes No Parts of the installation to which this certificate relates that are safe to connect to a power supply? Yes No Parts of the installation to which this certificate relates that are safe to connect to a power supply? The work relies on manufacturers instructions: Yes No I yes No I	Phone & email:		yeti@nwl.kiwi				
Certificate of Compliance Type of work: Addition Alteration Alteration New work The prescribed electrical work is: Low risk General Minshain earth Minshain ea	Name and registratio	n number					
Type of work:	of person(s) supervise	ed:					
The prescribed electrical work is: Cow risk	Certificate of Com	pliance					
Mains/Main earth Means of compliance:			Addition	☐ Alteration			
Additional Standards or electrical code of practice were required: Date or range of dates that prescribed electrical work undertaken: [3/12/2021 to 14/12/2021 Contains fittings that are safe to connect to a power supply? Yes No Specify type of supply systems; [2307 MEN The installation has an earthing system that is correctly rated (where applicable) Parts of the installation to which this certificate relates that are safe to connect to a power supply? All Parts (specify) All Parts (specify) The work relies on manufacturers instructions: If yes No If yes		ical work is:	Low risk	☐ General	High-risk (Speci	ēVa	
Additional Standards or electrical code of practice were required: Date or range of dates that prescribed electrical work undertaken: [3/12/2021 to 14/12/2021 Contains fittings that are safe to connect to a power supply? Yes No Specify type of supply systems; [2307 MEN The installation has an earthing system that is correctly rated (where applicable) Parts of the installation to which this certificate relates that are safe to connect to a power supply? All Parts (specify) All Parts (specify) The work relies on manufacturers instructions: If yes No If yes	Means of compliance	ė	Part 1 of AS/NZS	3000 Part 2 of AS/N2S	3000		
Contains fittings that are safe to connect to a power supply? Yes No Specify type of supply system; 230V MEN The installation has an earthing system that is correctly rated (where applicable) Yes No Parts of the installation to which this certificate relates that are safe to connect to a power supply? All Parts (specify) The work relies on manufacturers instructions: Yes No If yes -identify the instruction manual including manu, date and varsion. Also attach a copy of manufacturers instructions to this certificate. (Or provide reference to residy accessible electronic format, ge internet link.) If yes -identify the certified design including manu, date and version. Also attach a copy of the certified design to this certificate. (Or provide reference to residy accessible electronic format, ge internet link.) If yes -identify the certified design including manu, date and version. Also attach a copy of the certified design to this certificate. (Or provide reference to residy accessible electronic format, eg internet link.) If yes -identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate. (Or provide reference to residy accessible electronic format, eg internet link.) If yes -identify the SDec including name, date and serios CR EESS registration. Also attach a topy of the safe of this certificate. (Or provide reference to residy accessible electronic format, eg internet link.) If yes -identify the SDec including name, date and serios CR EESS registration. Also attach a topy of the SDec to this certificate. (Or provide reference to residy accessible electronic format, eg internet link.) If yes -identify the SDec including name, date and serios CR EESS registration. Also attach a topy of the SDec to this certificate. (Or provide reference to residy accessible electronic format, eg internet link.) If yes -identify the solution with LED Head links links links links links links links links links links links links links links links				Control of the contro	2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1		
Contains fittings that are safe to connect to a power supply? Yes							
The installation has an earthing system that is correctly rated (where applicable) Parts of the installation to which this certificate relates that are safe to connect to a power supply? All Parts (specify) Parts (specify) The work relies on manufacturers instructions: Yes No If yes - Identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to this certificate. (Or provide reference to readily accessible electronic format, eg internet link.) Identify Manufacturer's instructions attached. VIOLU Stork Little Brother LED street luminaire, 20/05/2019 If yes - Identify the cortificate design instructions attached. VIOLU Stork Little Brother LED street luminaire, 20/05/2019 If yes - Identify the cortificate design adding name, date and version. Also attach a copy of the certified design to this certificate. (Or provide reference to readily accessible electronic format, ag letternat link.) Identify Certified design attached. Roadway Lighting Plan drawing. It we dentify the 20ct including name, date and arrison off E253 regulation. Also attach a copy of the 3DoC to this certificate. (Or provide reference to readily accessible electronic format, ag letternat link.) Identify SDoC attached Install New Street Column with LED Head Install New Street Column with LED Head Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk Mains Cable, Mains Installation by others. Livened by others. By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safety, and the information in the certificate is correct. 21/12/2/2021				CONTRACTOR OF THE PARTY OF THE			
The installation has an earthing system that is correctly rated (where applicable) Parts of the installation to which this certificate relates that are safe to connect to a power supply? All Parts (specify)							
Parts of the installation to which this certificate relates that are safe to connect to a power supply? All Parts (specify) The work relies on manufacturers instructions: Yes No If yes - identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to the certificate. Or provide reference to readily accessible electronic format, eginternet link.) Identify Manufacturer's instructions attached. VICLU Stork Little Brother LED street luminaire, 20/05/2019 It ink: The work has been done in accordance with a certified design: Yes No If yes - identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate. Or provide reference to readily accessible electronic format, eginternet link.] It is not the certified design attached. Roadway Lighting Plan drawing. It is not the certified design attached. Roadway Lighting Plan drawing. It is not the story Certified design attached. Roadway Lighting Plan drawing. It is not the story of the st				ed (where septicable)	Tyes 🔲	No	
The work relies on manufacturers instructions: If yes			하나 하는 아이들은 사람이 보다 하나 없다.				
The work relies on manufacturers instructions: If yes — Identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to this certificate. (for provide reference to readily accessible electronic format, eginternet link.) If dentify. Manufacturer's instructions attached. VIOLU Stork Little Brother LED street luminaire, 20/05/2019 If yes — No If yes — No If yes — No If yes — In the work has been done in accordance with a certified design; If yes — In the certified design including name, date and version. Also attach a copy of the certified design to this certificate. (Or provide reference to readily accessible electronic format, eginternet link.) Identify Certified design attached. Roadway Lighting Plan drawing. Unic The work relies on a Supplier Declaration of Conformity (SDoC): Yes — No If yes -adentify the SDoC including name, date and version of RESS registration. Also attach a copy of the SDoC to this certificate. (Or provide reference to madily accessible electronic format, eginternet link.) Identify SDoC attached India India Installation has been satisfactority tested in accordance with the Electricity (Safety) Regulations 2010 — No — Yes Description of Work: Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk Mains Cable, Mains Installation by others. Livened by others. By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.	<u> </u>		and act and act codes the	t are some to comment to a	омел зорргу:		
If yes — identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to this certificate. (Or provide reference to readily accessible electronic format, eg internet link.) Identify. Manufacturer's instructions attached. VIOLU Stork Little Brother LED street luminaire, 20/05/2019 [Internet work has been done in accordance with a certified design: Yes No If yes — identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate. (Or provide reference to readily accessible electronic format, eg internet link.) Internet. Certified design attached. Roadway Lighting Plan drawing. Internet. Certified design attached. Roadway Lighting Plan drawing. If yes — identify the SDoC including name, date and version OR E235 registration. Also attach a copy of the SDoC to this certificate. (Or provide reference to madily accessible electronic format, eg internet link.) Identify. SDoC attached Install New Street Column with LED Head Install New Street Column with LED Head Install New Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk Mains Cable, Mains Installation by others. Livened by others. By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct. [21/12/2021]	1 [[[[] [] [] [] [] [] [] [] [] [] [] []		Instructions	Dw. D	TNo		
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If yes - identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate. [Or provide reference to readily accessable electronic format, ag internet link.] Limitary. Certified design attached. Roadway Lighting Plan drawing. Limitary. The work relies on a Supplier Declaration of Conformity (SDoC): If yes - identify the SDoC including name, date and sensor CR ESSS regularation. Also attach a copy of the SDoC to this certificate. [Or provide reference to readily accessable electronic format, ag internet link.] Identify. SDoC attached Link. The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 No Yes Description of Work: Install New Street Column with LED Head Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk Mains Cable, Mains Installation by others. Livened by others. Explain this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safety, and the information in the certificate is correct. [21/12/2021]	Unic						
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The work relies on a Supplier Declaration of Conformity (SDoC): Yes No If yes - identify the SDoC including name, date and service CR E25 regulation. Also allach a copy of the SDoC to this careficate. [Or provide reference to madely accessable electronic format, ag internet link.] Identify SDoC attached [Install New Street Column with LED Head Install New Street Column with LED Head Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk Mains Cable, Mains Installation by others. Livened by others. By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct. [21/12/2021			느낌이 있는 어느 없는 사람들은 사람들이 되었다. 그 살아 없는 것이 없는 것이 없는 것이 없는 것이 없는 것이 없는 것이 없는 것이다.		gn to this certificate.		
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If yes - dentity the SDeC actually accounts a manual CRI ESS regularation. Also allach a copy of the SDeC to the careficate. Or provide reference to madily accounts a electronic format, as internet link.		Supplier Dec	laration of Conformity (SC	och: Yes [No		
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The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 No Yes Description of Work: Test Results (provide values)			electronic format, ag Internet lin	k.j			
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Mains Cable, Mains Installation by others. Earth Continuity: 0.0 Ohm Bending Ohm Fault Loop impedance Ohm Other (apeding): By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct. [21/12/2021]							
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By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct. [21/12/2021]		nstallation by	others.	1	Earth Continuity:	0.0	Ohms
By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.	Liveried by others.				Bonding		Ohms
By signing this document i certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.					Fault Loop Impedance		Ohms
applies has been done lawfully and safely, and the information in the certificate is correct. [21/12/2021]					Other (specify):		
applies has been done lawfully and safely, and the information in the certificate is correct. [21/12/2021]	By signing this docum	sent i certifu	that the completed press	rihad electrical work to w	high this Cortificate	of Compli	ance
21/12/2021		TO SECURE A				or compile	
Pertifier's signature: 27 1789		chila a.	an outerfly one the mileting				
	ertifier's signature: L	10/4 WAY		Date:			
CUSTOMER COPY - THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS							



#1247-P20 Page 1 of 2

Location Details: Contact Details: (Name and address)	om has been t of AS/N25 30 Greenhill Pa		d electrical workers to certify that the specified system of electrical		illations under P	art Lor
Location Details: Contact Details: (Name and address) Name of Electrical worker:	Greenhill Pa	ark, Hamilton- Stage 16			ellations under P	art 1 or
Location Details: Contact Details: (Name and address) Name of Electrical worker:	Greenhill Pa Kerryn S Ke	ark, Hamilton- Stage 16				
Contact Details: (Name and address) Name of Electrical worker:	(erryn S Ke					_
(Name and address) Name of Electrical worker:		rrynS@ibexlighting.com				\neg
(Name and address) Name of Electrical worker:	/eti Martyn					
worker:	/eti Martyn					
	Climidityii		Registration/Practising	E257490		\neg
Dhone & smalls			licence number:			
Prione & email:		yeti@nwl.kiwi				
Name and registration n	number					
of person(s) supervised:	:					
Certificate of Compl	liance	-				
Type of work:		Addition	☐ Alteration	New work		
The prescribed electrical Mains/Main earth	d work is:	Low risk	☐ General	High-risk (Speci	Mr	
231107 100 74 100 000 100 100 100		T	2000 [7] 0	2000		
Means of compliance:	alactrical	Part 1 of AS/NZS code of practice were rec	and the second s	2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1		
			rtaken 13/12/2021 to 14/1			=
		onnect to a power supply		TNo		
Specify type of supply s			,			
	C1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	stem that is correctly rat	and furbace sensitivable	Yes 🔲	No	
		[12] [12] [12] [12] [12] [12] [12] [12]	it are safe to connect to a p			
All Parts (specif	10 10 10 10 10 10 10 10 10 10 10 10 10 1	ans ceruncase relates un	it are sale to confiect to a p	ower suppry:		
이 맛있다면 하늘 아이들이 하는 것이라면 하는데 뭐 하는데 하는데 하는데 하는데 하는데 하는데 하는데 하는데 하는데 하는데	시설 경기 가장 하다	Instructions	✓ Yes □	TNo		
The work relies on man			less attach a copy of manufacturer	-	diam'r.	
물리가 하이 살아보다 하는 내가 그렇게 되었다면 되었다.		electronic format, eg internet li	"이렇지 하나라면요요."라이다면 뭐라고 하는 아이네요.	a micracipita to tria ca	merco.	
			er LED street luminaire, 20/05/20	19		
Unic						$\overline{}$
		fance with a certified des		No		
		. [[[[[[[[[[[[[[[[[[[attach a copy of the certified desi-	gn to this certificate.		
		. Roadway Lighting Plan d				
unk						
The work relies on a Sup	pplier Decl	laration of Conformity (Si	DoC): Yes	No		
If yes - identify the SDoC include	ding name, di	ate and version OR 6855 registra	ation. Also attach a copy of the SD	oC to this certificate.		
		electronic format, ag Internet la	nk.j			
SDoC attached	u					
	satisfactoril	v tested in accordance with	the Electricity (Safety) Regula	tions 2010	No Yes	=
Description of Work:		Transfer and transfer and		Test Results ((25)
Install New Street Colum				Polarity		
1		Earth Stake, Cad Welded		(Independent earth):		
Connection - Light Risk Mains Cable, Mains Inst		others	-	Insulation resistance:	0.0	Ohms
Livened by others.	tanation by	outoro.		Earth Continuity:	0.0	Ohms
				Bending: Fault Loop impedance	0.0	Ohms
						Onns
				Other (specify):		
	The second secon		cribed electrical work to wi		of Complian	CE
	lawfully an	d safely, and the informa		rrect. 1/2022		-
applies has been done !	Lillande					



#1247-P21 Page 1 of 2

A E	LECTRICAL	CERTIFICATE OF COM	IPLIANCE			
/W\\"	is form has been rt 2 of AS/N2S 3	#1247-P22 Index ID No.: Index in designed to be used by licensed to be used by licensed to learn, Hamilton- Stage 16			tallations under Part	l or
Contact Details: (Name and address)	Kerryn S Ke	errynS@ibexlighting.com				
Name of Electrical worker:	Yeti Martyn		Registration/Practising licence number:	E257490		
Phone & email:		yeti@nwl.kiwi		141		一
Name and registratio of person(s) supervise						\exists
Certificate of Com Type of work The prescribed electr Mains/Main earth		Addition Low risk	Alteration General	New work High-risk (Spec	ilvis	_
Date or range of date	or electrical s that prescr	Part 1 of AS/NZS 3 code of practice were req ibed electrical work under	uired: No Yes (s rtaken: 13/12/2021 to 14/13	pecify c 2/2021		\exists
Contains fittings that Specify type of suppl		connect to a power supply OV MEN	? 🗹 Yes 🗆]No		<u> </u>
		ystem that is correctly rate	nd furbase senticable)	1Yes □	No	
		this certificate relates that				
All Parts (spe		100 401 11110010, 1 010102 31111	the seed to confidence to a	Service Supply:		
The work relies on m		s instructions:	✓ Yes □	7No		
		luding name, date and version. Al		's instructions to this co	etificats:	
Manufacturer's		tached. VIOLU Stork Little Brothe		19	V001-10	
The work has been d	one in accor	dance with a certified desi	en: 🗸 Yes	TNo.		_
		ng name, date and version. Also a	E 100 E 100 E 100 E 100 E 100 E 100 E 100 E 100 E 100 E 100 E 100 E 100 E 100 E 100 E 100 E 100 E 100 E 100 E	gn to this certificate.		
Mentally Certified des		I. Roadway Lighting Plan dr				
The work relies on a	Supplier Dec	laration of Conformity (SD	och: Yes	TNo		_
		late and sersion OR 6835 registrar	2005. 201 2. V	-1 000		
		electronic format, ag Internet lin	k.j	U COCOL LINES X DOOR		
SDoC attac	hed					
The state of the s	es satisfactori	ly tested in accordance with t	the Electricity (Safety) Regula	tions 2010	No Yes	_
Description of Work		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		The second secon	provide values)	
Install New Street Col	umn with LEI			Polarity		-
Install MEN Board, M Connection - Light Ri		d Earth Stake, Cad Welded	-	(Independent earth): Independent earth):	-	hms
Mains Cable, Mains I		others.	-	Earth Continuity:		hms
Livened by others.	,		1	Bonding:		hms
			1	Fault Loop impedance	1 17	hms
				Other (specify):		
Decidentes able deser			dhad alastelasi wash ta w		of Compliance	_
		that the completed presc nd safely, and the informa	tion in the certificate is co		of Compliance	-
ertifier's signature:	10/1/M		Date:			
cust	OMER COPY - T	HIS IS AN IMPORTANT DOCUME	NT AND SHOULD BE RETAINED F	OR A MINIMUM OF 7 Y	EARS	



#1247-P22 Page 1 of 2

Location Details: Contact Details: (Name and address) Name of Electrical worker: Phone & email: Name and registration in of person(s) supervised:	om has been of AS/NZS 30 Greenhill Pa		electrical workers to certify that the specified system of electrical		allations under i	Part 1 or
Location Details: Contact Details: (Name and address) Name of Electrical worker: Phone & email: Name and registration in of person(s) supervised:	Greenhill Pa	designed to be used by increased to be to			allations under i	Part 1 or
Location Details: Contact Details: (Name and address) Name of Electrical worker: Phone & email: Name and registration in of person(s) supervised:	Greenhill Pa Kerryn S Ke	ark, Hamilton- Stage 16				
Contact Details: (Name and address) Name of Electrical worker: Phone & email: Name and registration in of person(s) supervised:	Gerryn S Ke			230450-1		
(Name and address) Name of Electrical worker: Phone & email: Name and registration nof person(s) supervised:		rrynS@ibexlighting.com				$\overline{}$
Name of Electrical worker: Phone & email: Name and registration in of person(s) supervised:	'eti Martyn					
worker: Phone & email: Name and registration n of person(s) supervised:	eti Martyn					
Phone & email: Name and registration n of person(s) supervised:			Registration/Practising	E257490		=
Name and registration n of person(s) supervised:			licence number:			
of person(s) supervised:		yeti@nwl.kiwi				
	number					
Certificate of Compli	iance					
Type of work:		Addition	☐ Alteration	New work		
The prescribed electrical Mains/Main earth	l work is:	Low risk	General	High-risk (Speci	Nr.	
TATELON OF THE PARTY OF THE PAR		Part 1 of AS/NZS	1000 Part 2 of AS/N2S	2000		
Means of compliance: Additional Standards or	electrical o	code of practice were req	Control of the Contro	2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1		- 11
			rtaken: 13/12/2021 to 14/1			
		onnect to a power supply	Committee of the commit	TNo		
Specify type of supply sy			. [],65	1		\neg
	C1 (V) (V) (V)	stem that is correctly rat	ad future confication [7]	Tyes 🔲	No	
					196	
J <u>an</u> 100 1 <u>1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 </u>	The state of the s	inis certificate relates tha	t are safe to connect to a p	ower supply?		
All Parts (specify		2012/02/2010	- T	7.0		
The work relies on manu			✓ Yes □	No		
요즘 현실을 안 된 시간 이 게 되었다면서 사람들이 되었다.		[H. 17] [M. 1. [M. 1. [M. 1. M	ise attach a copy of menufacturer	's instructions to this car	rificats.	
		eched. VIOLU Stork Little Brothe	er LED street luminaire, 20/05/20	19		
Link:				•		
The work has been done	e in accord	fance with a certified desi	ign: Yes	No		
If yes - identify the certified do	lesign includin	igname, date and version. Also	attach a copy of the certified desi	gn to this certificate.		
		electronic formet, og Internet lin				
Gertified design	n attached.	. Roadway Lighting Plan dr	awing.			
Committee of the commit	nolier Deck	laration of Conformity (SC	och: Yes	TNo		
			tion. Also attach a copy of the SD	7 100		
		electronic format, ag Internet lin				
Identify SDoC attached	d					
Link						
	satisfactorily	y tested in accordance with	the Electricity (Safety) Regula			$\overline{}$
Description of Work: Install New Street Column	n with LED) Hood	-	Test Results (provide valu	es)
		Earth Stake, Cad Welded		Polarity (Independent earth):		
Connection - Light Risk				Inpulation resistance:		Ohms
Mains Cable, Mains Insta	tallation by	others.	it it	Earth Continuity:	0.0	Ohms
Livened by others.				Bonding	0.0	Ohms
				Fault Loop impedance		Ohms
				Other (specify):		
By signing this documen	nt i certifu i	that the completed presc	ribed electrical work to wi	high this Cortificate	of Complian	100
			tion in the certificate is co		U. Compilar	S
-24	444 1	a sorety, one the interme		1/2022		
Certifier's signature: 🔑	N 4 14 14		Date:			
Certifier's signature:	eyrigi					



#1247-P23 Page 1 of 2

	LECTRICAL	CERTIFICATE OF CON	APLIANCE .		
		#1247-P24		F .	
		rIPICATE ID No.:	electrical workers to certify that	installations or Part inst	allatinos under Part Lor
			the specified system of electrical		and the contract of the contra
Location Details:	Greenhill Pa	ark, Hamilton- Stage 16			
Contact Details:	Kerryn S Ke	errynS@ibexlighting.com			
(Name and address)					
Name of Electrical	Yeti Martyn		Registration/Practising	E257490	
workers	Ų.		licence number:		
Phone & email:		yeti@nwl.kiwi			
Name and registratio	n number				
of person(s) supervise	ed:				
Certificate of Com	pliance	-			
Type of work:		☐ Addition	☐ Alteration	New work	
The prescribed electric Mains/Main earth	cal work is:	Low risk	☐ General	High-risk (Speci	Nr.
12.11.00.000.04.000.000.000.000.000		P	[7]		
Means of compliance		Part 1 of AS/NZS : code of practice were req	The state of the s	2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	13
			ntaken: 13/12/2021 to 14/1		
		connect to a power supply	CONTRACTOR OF THE PARTY OF THE	TNo	
Specify type of suppl	and the second second	The second second	r Lies L	1110	
			ad folios confestion [7]	Tyes 🔲	No
		ystem that is correctly rat			140
		this certificate relates tha	t are safe to connect to a g	ower supply?	
All Parts (spe				400	
The work relies on m			✓ Yes □	No	
요즘 하게 되는 것 같아. 이 게 되었는데, 맛있다.			lea attach a copy of manufacturer	's instructions to this car	rtificats.
		tached, VIOLU Stork Little Brothe	er LED street luminaire, 20/05/20	19	_
Unic					
The work has been d	one in accord	dance with a certified des	ign: Yes	No	
If yes - identify the certific	d design includir	ing name, date and version. Also	attach a copy of the certified desi	gn to this certificate.	
		electronic formet, eg Internet lin			
unk: Certified des	sign allached	I. Roadway Lighting Plan di	awing.		
	Supplier Dec	laration of Conformity (SI	DoCl: Yes]No	
			tion. Also attach a copy of the SD:	7 100	
(Or provide reference to re	adily accessible	electronic format, ag Internet lin			
Identify SDoC attack	ned				
Link					
		ly tested in accordance with	the Electricity (Safety) Regula		
Description of Work Install New Street Col) Head		Polarity	provide values)
		d Earth Stake, Cad Welded		(Independent earth):	
Connection - Light Ri				Inpulation resistance:	Ohms
Mains Cable, Mains I	nstallation by	others.		Earth Continuity:	0.0 Ohms
Livened by others.				Bonding	0.0 Ohms
1 '				Fault Loop impedance	Ohms
,				Other (specify):	
,				1 1 11 1 - 110	1227000000000
	sent i certify	that the completed proce	rihed electrical work to wi	hich this Cortificato	of Compliance
By signing this docum	Control of the contro		ribed electrical work to wi		of Compliance
By signing this docum	Control of the contro		tion in the certificate is co		of Compliance
By signing this docum	Control of the contro				of Compliance



#1247-P24 Page 1 of 2

This Part		SECURE OF THE SECURE OF SECURE	APLIANCE .		
Part		#1247-P26			
Part		recare ID No.: L	electrical workers to certify that	installations or Part inst.	flations under Part 1 or
Location Details:			the specified system of electrical		
	Greenhill Pa	ark, Hamilton			
Contact Details:	Kerryn S Ke	errynS@ibexlighting.com			
(Name and address)					
Name of Electrical	Yeti Martyn		Registration/Practising	E257490	
workers	<u></u>		licence number:		
Phone & email:		yeti@nwl.kiwi			
Name and registration	number				
of person(s) supervised	ti.				
Certificate of Comp	liance	-			
Type of work:		☐ Addition	☐ Alteration	New work	
The prescribed electric Mains/Main earth	al work is:	Low risk	☐ General	High-risk (Speci	W.
CATACATA CANADA CANADA ANTANA ANTANA		Part 1 of AS/NZS	3000 Part 2 of AS/N2S	2000	
Means of compliance: Additional Standards of	e electrical	code of practice were req	and the second s	2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
			rtaken: 13/12/2021 to 14/1		
		connect to a power supply	CONTRACTOR OF THE PROPERTY OF]No	
Specify type of supply					
	101 V 1 V 1 V 1 V 1	ystem that is correctly rat	ed (where applicable)	Tyes 🔲	No
		하나 하는 아이들은 사람이 보다 하나 없다.	t are safe to connect to a p	power supply?	
All Parts (spec					
The work relies on mar		instructions:	✓ Yes □	7No	
			lea attach a copy of menufacturer	's instructions to this car	tificats.
		electronic format, eg Internet lin			20000
	nstructions att	ached. VIOLU Stork Little Brothe	er LED street luminaire, 20/05/20	19	
The work has been do	no in accorr	dance with a certified des	ign: Yes	TNo.	
			attach a copy of the certified desi		
		electronic formet, og Internet lin		**************************************	
Certified design	gn attached	. Roadway Lighting Plan dr	awing.		
	applier Dec	laration of Conformity (SI	DoC): Yes	No	
If yes - identify the SDoC inci-	uding name, d	ate and sersion OR 6655 registra	tion. Also attach a copy of the SD	oC to this certificate.	
		electronic format, ag Internet lin	k.j		
SDoC attache	ea				
	satisfactoril	y tested in accordance with	the Electricity (Safety) Regula	tions 2010	No Yes
Description of Work:		•	1		provide values)
Install New Street Colur			1	Polarity	
Connection - Light Risk		d Earth Stake, Cad Welded	-	(Independent earth): Insulation resistance:	Ohms
Mains Cable, Mains Ins		others.		Earth Continuity:	0.0 Ohms
Livened by others.	•		1	Bonding	0.0 Ohms
			1	Fault Loop impedance	Ohms
				Other (specify):	
		that the completed serve	ribad alastelesi wash ta w		of Compliance
Day closely a thile show you	and I maretifue				or compliance
	AND AND AND AND AND AND AND AND AND AND	will called up and the informa-		0.00000	
By signing this docume applies has been done ertifier's signature:	AND AND AND AND AND AND AND AND AND AND	nd safely, and the informa		12/2021	



#1247-P26 Page 1 of 2

Location Details: Contact Details: (Name and address)	enhill Par ryn S Ker Martyn		d electrical workers to certify that the <u>specified</u> system of electrical Registration/Practising licence number:	supply.	affations unde	er Part Lor
Location Details: Contact Details: [Name and address] Name of Electrical worker: Phone & email: Name and registration nur of person(s) supervised: Certificate of Compliantype of work: The prescribed electrical with Means of compliance: Additional Standards or electrical with the prescribed electrical	enhill Par ryn S Ker Martyn	designed to be used by licenses 00 are safe to be connected to rk, Hamilton rrynS@ibexlighting.com	the <u>specified</u> system of electrical	supply.	allations unde	er Part Lor
Location Details: Contact Details: [Name and address] Name of Electrical worker: Phone & email: Name and registration num of person(s) supervised: Certificate of Compliantype of work: The prescribed electrical will mains/Main earth Means of compliance: Additional Standards or electrical will mains of compliance:	enhill Par ryn S Ker Martyn	rk, Hamilton rynS@ibexlighting.com	the <u>specified</u> system of electrical	supply.		
Contact Details: (Name and address) Name of Electrical worker: Phone & email: Name and registration nur of person(s) supervised: Certificate of Compliantype of work: The prescribed electrical working Mains/Main earth Means of compliance: Additional Standards or electrical working and standards or electrical working.	Martyn Martyn	rynS@ibexlighting.com		E257490		
(Name and address) Name of Electrical worker: Phone & email: Name and registration nur of person(s) supervised: Certificate of Compliant Type of work: The prescribed electrical womans/Main earth Means of compliance: Additional Standards or electrical standards or el	Martyn mber nce			E257490		_
Name of Electrical worker: Phone & email: Name and registration nur of person(s) supervised: Certificate of Complian Type of work: The prescribed electrical widens/Main earth Means of compliance: Additional Standards or electrical widens/Main estandards or electrical widens/Main earth	mber [yeti@nwl.kiwi		E257490		
worker: Phone & email: Name and registration nur of person(s) supervised: Certificate of Complia: Type of work: The prescribed electrical w Mains/Main earth Means of compliance: Additional Standards or ele	mber [yeti@nwl.kiwi		E257490		
Phone & email: Name and registration nur of person(s) supervised: Certificate of Complian Type of work: The prescribed electrical widens/Main earth Means of compliance: Additional Standards or electrical standards.	nce	yeti@nwl.kiwi				
Name and registration nur of person(s) supervised: Certificate of Complia Type of work: The prescribed electrical w Mains/Main earth Means of compliance: Additional Standards or ele	nce	yeti@nwl.kiwi				
of person(s) supervised: Certificate of Complia: Type of work: The prescribed electrical w Mains/Main earth Means of compliance: Additional Standards or ele	nce	.1				
Certificate of Complia Type of work: The prescribed electrical w Mains/Main earth Means of compliance: Additional Standards or ele						
Type of work: The prescribed electrical w Mains/Main earth Means of compliance: Additional Standards or ele						
The prescribed electrical w Mains/Main earth Means of compliance: Additional Standards or ele	vork is:					
Mains/Main earth Means of compliance: Additional Standards or ele	vork is:	Addition	☐ Alteration	New work		
Means of compliance: Additional Standards or el		Low risk	☐ General	High-risk (Speci	N/s	
Additional Standards or el-		T	2000 FZ b			
	artrical c	Part 1 of AS/NZS	and the second s	2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
pare or range or once the						
Contains fittings that are :			CONTRACTOR OF THE PROPERTY OF	TNo.		
Specify type of supply syst			y. Lites L	1.10		
The installation has an ear			and furbace sensitivable	Yes 🗆	No	
		선생이 반강하다 생일이 나이를 받다	it are safe to connect to a p		,	
All Parts (specify)		ns certificate relates tha	it are sale to connect to a p	power suppry:		
[[[] [[] [[] [[] [] [] [] [] [] [] [] []		la de confessor	✓ Yes □	TNo.		
The work relies on manufa			Viso attach a copy of manufacturer	-	attento.	
(Or provide reference to readily a		중심계하다 하다 시시 그렇게 되어 있습니다.	"이렇지 하다라면 요즘 하라마면 하다 하다 하다 하다 않다.	a micraciona to tria ca	mecato.	
			er LED street luminaire, 20/05/20	19		
Link						
The work has been done i	n accorda	ance with a certified des	iign: ✓Yes	No		
			attach a copy of the certified desi	gn to this certificate.		
Certified design a						
unk						
The work relies on a Supp	lier Decla	eration of Conformity (Si	DoC): Yes	No		
If yes - identify the SDoC including	g name, dat	te and version OR 6835 registra	ation. Also attach a copy of the SD	oC to this certificate.		
(Or provide reference to readily a	eccessible e	lectronic format, ag Internet la	nk.j			
SDoC attached						
	sfactorily	tested in accordance with	the Electricity (Safety) Regula	tions 2010	No Y	06
Description of Work:				Test Results (
Install New Street Column				Polarity		
Install MEN Board, Main E	arth and I	Earth Stake, Cad Welded	-	(Independent earth):	_	
Connection - Light Risk Mains Cable, Mains Install	ation by o	others	-	Insulation resistance:	0.0	Ohms
Livened by others.		. .	1	Earth Continuity: Bending:	0.0	Ohms
				Fault Loop impedance	0.0	Ohms
						Unitis
				Other (specify):		
			cribed electrical work to wi		of Compli	ance
applies has been done law	rfully and	safely, and the informa	ation in the certificate is co			
ertifier's signature:	17/19/2		Date: 15/	12/2021		



#1247-P27 Page 1 of 2



(Pursuant to the Electricity (Safety) Regulations 2010)



Reference/Record Number:

Issuer (Inspector) de	etails:				
Name of Inspector:			Registration #:		
Email Address:			Telephone:		
Location of Installat	ion:				
Location details:					
Location Type:	Domestic	Non-Domestic Accommodation	n	Industrial	Commercial
	Educational	Healthcare		Miscellaneous (other)	
Certifying Electrical	Work and Certificate of	Compliance (CoC) details:			
Name of Electrical worker(s):			Registration #:		
CoC details:				CoC(s) attached	
Certifying Flectrical	Work and CoC details:				
What was inspected:					
Specify the regulation((s) and companion standard	(s), or identify the certified desi	gn followed whe	n carrying out the inspection	n·
speeny the regulation(sy and companion standard	(a), or receiving the certifice design	g., roudwed wire	in carrying out the inspection	•
What are the requite of	Calles in an eastion.				
What are the results of	r the inspection:				
High Risk Category:					
Not to AS/NZS 3000		Photovoltaic system – 6A(2)(a)(iv	v)	Electrical medical are	
High voltage installati	on – 6A(2)(a)(ii)	Hazardous area – 6A(2)(a)(v)		Mains work – 6A(2)(b)

Declaration

I hereby confirm that the work described above has been done in /not in accordance with the regulations; and the installation / part installation on which the work has been done is, and will be /not be, when enlivened, electrically safe.

Animal stunning or meat conditioning - 6A(2)(c)

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature:

MB14132 **04/1**7

Mains parallel generation - 6A(2)(a)(iii)

Other – please describe:



(Pursuant to the Electricity (Safety) Regulations 2010)



Reference/Record Number:

Issuer (Inspector) de	etails:				
Name of Inspector:			Registration #:		
Email Address:			Telephone:		
Location of Installat	ion:				
Location details:					
Location Type:	Domestic	Non-Domestic Accommodation	n	Industrial	Commercial
	Educational	Healthcare		Miscellaneous (other)	
Certifying Electrical	Work and Certificate of	Compliance (CoC) details:			
Name of Electrical worker(s):			Registration #:		
CoC details:				CoC(s) attached	
Certifying Flectrical	Work and CoC details:				
What was inspected:					
Specify the regulation((s) and companion standard	(s), or identify the certified desi	gn followed whe	on carrying out the inspection	n·
speeny the regulation(sy and companion standard	(a), or receiving the certifice design	g., roudwed wire		•
2241					
What are the results of	t the inspection:				
High Risk Category:					
Not to AS/NZS 3000	Part 2 – 6A(2)(a)(i)	Photovoltaic system – 6A(2)(a)(iv	')	Electrical medical are	a – 6A(2)(a)(vi)
High voltage installati	on – 6A(2)(a)(ii)	Hazardous area – 6A(2)(a)(v)		Mains work – 6A(2)(t)

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Animal stunning or meat conditioning - 6A(2)(c)

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature:

MB14132 **04/1**7

Mains parallel generation - 6A(2)(a)(iii)

Other – please describe:



(Pursuant to the Electricity (Safety) Regulations 2010)



Reference/Record Number:

Issuer (Inspector) de	talls:				
Name of Inspector:			Registration #:		
Email Address:			Telephone:		
Location of Installat	ion:				
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What was inspected:					
Specify the regulation(s) and companion standard(s), or identify the certified desig	n, followed wher	n carrying out the inspection	:
What are the results of	the inspection:				
High Risk Category:					
Not to AS/NZS 3000 High voltage installation Mains parallel generat	on – 6A(2)(a)(ii)	Photovoltaic system – 6A(2)(a)(iv) Hazardous area – 6A(2)(a)(v) Animal stunning or meat condition	ning – 6A(2)(c)	Electrical medical area Mains work – 6A(2)(b)	

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MB14132 **04/1**7



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Specify the regulation	(s) and companion standard	d(s), or identify the certified desi	gn, followed whe	n carrying out the inspection	n:
What are the results o	of the inspection:				
High Risk Category:	:				
Not to AS/NZS 3000		Photovoltaic system – 6A(2)(a)(iv	<i>'</i>)	Electrical medical are	
High voltage installat Mains parallel genera		Hazardous area – 6A(2)(a)(v) Animal stunning or meat condition	oning – 6A(2)(c)	Mains work – 6A(2)(t))

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Specify the regulation	(s) and companion standard	d(s), or identify the certified desi	gn, followed whe	n carrying out the inspection	n:
What are the results o	of the inspection:				
High Risk Category:	:				
Not to AS/NZS 3000		Photovoltaic system – 6A(2)(a)(iv	<i>'</i>)	Electrical medical are	
High voltage installat Mains parallel genera		Hazardous area – 6A(2)(a)(v) Animal stunning or meat condition	oning – 6A(2)(c)	Mains work – 6A(2)(t))

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What are the results o	of the inspection:				
High Risk Category:	:				
Not to AS/NZS 3000		Photovoltaic system – 6A(2)(a)(iv	<i>'</i>)	Electrical medical are	
High voltage installat Mains parallel genera		Hazardous area – 6A(2)(a)(v) Animal stunning or meat condition	oning – 6A(2)(c)	Mains work – 6A(2)(t))

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What are the results o	of the inspection:				
High Risk Category:	:				
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High voltage installat Mains parallel genera		Hazardous area – 6A(2)(a)(v) Animal stunning or meat condition	oning – 6A(2)(c)	Mains work – 6A(2)(t))

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MB14132 **04/1**7



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Email Address:			Telephone:		
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What was inspected:					
Specify the regulation	(s) and companion standard	d(s), or identify the certified desi	gn, followed whe	n carrying out the inspection	n:
What are the results o	of the inspection:				
High Risk Category:	:				
Not to AS/NZS 3000		Photovoltaic system – 6A(2)(a)(iv	<i>'</i>)	Electrical medical are	
High voltage installat Mains parallel genera		Hazardous area – 6A(2)(a)(v) Animal stunning or meat condition	oning – 6A(2)(c)	Mains work – 6A(2)(t))

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Email Address:			Telephone:		
Location of Installa	tion:				
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Location Type:	Domestic	Non-Domestic Accommodatio	n	Industrial	Commercial
	Educational	Healthcare		Miscellaneous (other)	
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Specify the regulation	(s) and companion standard	d(s), or identify the certified desi	gn, followed whe	n carrying out the inspection	n:
What are the results o	of the inspection:				
High Risk Category:	:				
Not to AS/NZS 3000		Photovoltaic system – 6A(2)(a)(iv	<i>'</i>)	Electrical medical are	
High voltage installat Mains parallel genera		Hazardous area – 6A(2)(a)(v) Animal stunning or meat condition	oning – 6A(2)(c)	Mains work – 6A(2)(t))

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MB14132 **04/1**7



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Reference/Record Number:

Issuer (Inspector) de	etails:				
Name of Inspector:			Registration #:		
Email Address:			Telephone:		
Location of Installat	ion:				
Location details:					
Location Type:	Domestic	Non-Domestic Accommodatio	n	Industrial	Commercial
	Educational	Healthcare		Miscellaneous (other)	
Certifying Electrical	Work and Certificate of	Compliance (CoC) details:			
Name of Electrical worker(s):			Registration #:		
CoC details:				CoC(s) attached	
Certifying Flectrical	Work and CoC details:				
What was inspected:	Work and Coc details.				
Specify the regulation((s), or identify the certified desi	gn, followed whe	en carrying out the inspectio	n:
High Risk Category: Not to AS/NZS 3000		Photovoltaic system – 6A(2)(a)(iv)	Electrical medical are	a – 6A(2)(a)(vi)
High voltage installati		Hazardous area – 6A(2)(a)(v)	,	Mains work – 6A(2)(I	
Mains parallel generat	tion – 6A(2)(a)(iii)	Animal stunning or meat condition	oning – 6A(2)(c)		

Declaration

Other – please describe:

I hereby confirm that the work described above has been done in /not in accordance with the regulations; and the installation / part installation on which the work has been done is, and will be / not be, when enlivened, electrically safe.

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MB14132 **04/1**7

Signature:



(Pursuant to the Electricity (Safety) Regulations 2010)



Reference/Record Number:

Issuer (Inspector) de	etails:				
Name of Inspector:			Registration #:		
Email Address:			Telephone:		
Location of Installat	ion:				
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Location Type:	Domestic	Non-Domestic Accommodatio	n	Industrial	Commercial
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Certifying Electrical	Work and Certificate of	Compliance (CoC) details:			
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CoC details:				CoC(s) attached	
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High Risk Category: Not to AS/NZS 3000		Photovoltaic system – 6A(2)(a)(iv)	Electrical medical are	a – 6A(2)(a)(vi)
High voltage installati		Hazardous area – 6A(2)(a)(v)	,	Mains work – 6A(2)(I	
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MB14132 **04/1**7

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High Risk Category: Not to AS/NZS 3000		Photovoltaic system – 6A(2)(a)(iv)	Electrical medical are	a – 6A(2)(a)(vi)
High voltage installati		Hazardous area – 6A(2)(a)(v)	,	Mains work – 6A(2)(I	
Mains parallel generat	tion – 6A(2)(a)(iii)	Animal stunning or meat condition	oning – 6A(2)(c)		

Declaration

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MB14132 **04/1**7

Signature:



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Reference/Record Number:

Issuer (Inspector) de	etails:				
Name of Inspector:			Registration #:		
Email Address:			Telephone:		
Location of Installat	ion:				
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Location Type:	Domestic	Non-Domestic Accommodatio	n	Industrial	Commercial
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Specify the regulation((s), or identify the certified desi	gn, followed whe	en carrying out the inspectio	n:
High Risk Category: Not to AS/NZS 3000		Photovoltaic system – 6A(2)(a)(iv)	Electrical medical are	a – 6A(2)(a)(vi)
High voltage installati		Hazardous area – 6A(2)(a)(v)	,	Mains work – 6A(2)(I	
Mains parallel generat	tion – 6A(2)(a)(iii)	Animal stunning or meat condition	oning – 6A(2)(c)		

Declaration

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MB14132 **04/1**7

Signature:



(Pursuant to the Electricity (Safety) Regulations 2010)



Reference/Record Number:

Issuer (Inspector) de	etails:				
Name of Inspector:			Registration #:		
Email Address:			Telephone:		
Location of Installat	ion:				
Location details:					
Location Type:	Domestic	Non-Domestic Accommodatio	n	Industrial	Commercial
	Educational	Healthcare		Miscellaneous (other)	
Certifying Electrical	Work and Certificate of	Compliance (CoC) details:			
Name of Electrical worker(s):			Registration #:		
CoC details:				CoC(s) attached	
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What was inspected:	Work and Coc details.				
Specify the regulation((s), or identify the certified desi	gn, followed whe	en carrying out the inspectio	n:
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Signature:

F3.10 RAMM STREETLIGHT DATA

Subdivision and stage/Contr	ract GREENHILL PARK STAGE 16
novo ve as avida so	
Number of street lights of type	this 19
General	
Date Installed	19/1/2022
Control Type	Network Streetlight Feed / Photocell / Other
Origin of Power Supply	Streetlight Circuit Metered Power Supply
Light	
Manufacturer	VIZULO (IBEX)
Model	MINI STORK
Total Power Consumption (V	m 16.6W
.ight Height (m)	6m
Tilt Angle (" Degrees)	ZERO DEGREES
Outreach	
Outreach Type	Curved / Mitre (Other Decorative) MILFORD
Outreach Distance (m)	Im
Pole	
Manufacturer	BEX LIGHTING
Гуре	Octagonal (Circular) Power / Other Decorative
Pole Height (m)	Gm
Material	Galvanised Steel / Other:
Coating	N/A (Painted) Powder Coated
Colour (if coated)	BLACK
Mounting	Frangible ground plant / Shear Base
	600
☐ Manufacturer's Warr	ranty documents for Poles, Lights and Coatings attached.

F3.10 RAMM STREETLIGHT DATA

Subdivision and stage/Contract	GREENHILL PARK STAGE 16
Number of street lights of th type	*_3_
General	
Date Installed	19/1/2022
Control Type	Network Streetlight Feed Photocell / Other
Origin of Power Supply	Streetlight Circuit / Metered Power Supply
Light	
Manufacturer	VIZULO (IBEX)
Model	MINI STORK
Total Power Consumption (W)	39.6 W
Light Height (m)	8m
Tit Angle (* Degrees)	ZERO DEGREES
Control Control Control	ZERO DEGREES
Outreach	Curved / Mitre Other Decorative Milford
Outreach Outreach Type	
Outreach Dutreach Type Outreach Distance (m)	Curved / Mitre Other Decorative Mulford
Outreach Outreach Type Outreach Distance (m) Pole	Curved / Mitre Other Decorative Mulford
Outreach Outreach Type Outreach Distance (m) Pole Manufacturer	Curved / Mitre (Other Decorative:) Mulford
Outreach Outreach Type Outreach Distance (m) Pole Manufacturer Type	Curved / Mitre (Other Decorative) Milford Im IBEX LIGHTING
Outreach Dutreach Type Outreach Distance (m) Pole Manufacturer Type Pole Height (m)	Curved / Mitre (Other Decorative:) Milford Im IBEX LIGHTING Octagonal (Circular) Power / Other Decorative;
Tilt Angle (° Degrees) Outreach Outreach Type Outreach Distance (m) Pole Manufacturer Type Pole Height (m) Material (Coating	Curved / Mitre (Other Decorative) Mulford Im IBEX LIGHTING Octagonal (Circular) Power / Other Decorative;
Outreach Outreach Type Outreach Distance (m) Pole Manufacturer Type Pole Height (m)	Curved / Mitre (Other Decorative:) Mulford Im IBEX LIGHTING Octagonal (Circular) Power / Other Decorative; Sm Galvanised Steel Steel / Other.



IBEX 10 Year Limited Warranty – Project Warranty

Date: 04-11-2021

Project: Greenhill Park, Stage 16 Ref: 8579-00

Issued To: Chedworth Properties Limited

Transfer Provision: Hamilton City Council

a) This limited warranty is provided by Ibex International limited ("Ibex") in relation to the following products;

Luminaire - Vizulo Mini Stork Lens21 (5 year warranty)

Vizulo Mini Stork Optic 20 (5 year warranty)

Column - 6m and 8m Tapered column with 'Milford' Outreach (10yr Warranty Black paint Finish)

- b) Ibex warrants to the purchaser that it will deliver the product in new condition in the product's factory packaging. Further, the product will be free of defects in materials and/or workmanship for the warranty period stated.
- c) Ibex has sole discretion as to whether any warranty claim shall be valid considering all factors including (without limitation) the operating conditions the product has endured and the overall performance of the product. this warranty is only valid when proof of purchase can be provided and if the product has been operating within New Zealand
- d) The warranty period commences from the date of Ibex's invoice or the product's delivery date whichever is the earlier.
- e) If Ibex determines that a warranty claim is valid, Ibex will at its sole discretion either refund the purchase price of the product, refund the current market cost of an alternative product, repair the product or replace the product. In case of the repair or replacement the replacement product may not necessary be an identical product but an improved version due to ongoing technological developments and/or supply of original components currently available.
- f) Ibex reserve the right to recondition/refurbish any article that is subject to a warranty claim or replace parts with new or used parts in satisfaction of this warranty.

2 - Warranty Exclusions

- a) This warranty excludes any costs incurred by the purchaser including (without limitation) equipment hire, labour charges, accommodation charges, transport charges and travel charges.
- b) This warranty does not apply to loss or damages to the product caused by one or more of the following:
- Negligence and/or incorrect handling of the product by the buyer, installer, service agent or any other party acting on behalf or for the buyer;
- Improper installation;
- Improper handling;
- the product not being installed or maintained as set out in the installation instruction guide for the product;
- · Acts of nature, fire, vandalism;
- · Civil disturbances;
- Damages caused by fall or collision
- Installation or operation under environmental conditions beyond the manufacturer's recommendations;
- Power surges;



- Electrical supply fluctuations or faults;
- Mechanical failures as a result of actions not considered by Ibex to be within the normal operating conditions of the product;

Improper service and/or maintenance work carried out by someone not considered by the Ibex as an approved service agent/facilitator; and/or

- any other situation and/or event or circumstance deemed by Ibex as sufficient to render this warranty void.
- c) Notwithstanding any other provision of this warranty or any statute or rule of law, to the greatest extent possible lbex shall have no liability for any costs, damages or other losses directly or indirectly attributable to failure of the product. Further, lbex shall have no liability for any costs incurred by any party for any maintenance or remedial work.

3 - Product performance

- a) Ibex retains the sole discretion to determine whether a product is defective.
- b) This warranty shall apply only to the malfunction of products due to defects in material and or workmanship exceeding nominal failure rates. Unless otherwise stipulated in the product and application specifications provided by Ibex, the nominal failure rate for electronic operating devices and components such as LED's shall be set at 0.2% per 1000 operating hours. Furthermore a decrease in luminous flux of up to 0.6% per 1,000 operating hours and colour shift as per the LED Module /chip suppliers technical data information shall be considered normal and is not covered by this warranty.
- c) In the event that LED modules/Chips are replaced, lighting properties may vary from the original product.

4 - Warranty Transfers

this warranty may not be transferred to any entity without either the express written consent of Ibex or this being explicitly stated in the cover notes of this document. Ibex may withhold such consent at its sole and absolute discretion.

5 - Warranty Terms and Conditions

- a) In the event where a warranty is claimed on a product which is not faulty, Ibex reserves the right to seek compensation from the entity claiming on the warranty for all costs that have been incurred by Ibex including (without limitation) travel, accommodation, costs of access equipment, and third party service agents' costs.
- b) The warranty terms are those specified in wiring in this warranty document only.
- c) Ibex's warranty is a back-to-base warranty. Ibex shall bear no responsibility of any charges incurred by any entity for transport of the product to Ibex and/or from Ibex to the warranty claimant.
- d) Labour and Service charge incurred by Ibex in repairing / refurbishing any product are not covered in this warranty.
- e) The warranty shall be void if the product has been tampered with or parts replaced by personnel that have not be previously authorised by Ibex in writing.

Ibex reserves the right to modify this warranty at any time without prior notification and the new warranty terms shall be valid for all orders placed with the Ibex on or after the new issue date, from the date that the new warranty terms are posted on Ibex's website.

APPENDIX 8

Miscellaneous Check Lists and Producer Statements

- Subdivision Works Clearance Application Form
- Subdivision Certification Application Form
- Contractor Producer Statement Form
- Land Transfer Plan LT 570351
- Schedule of Engineering Value
- Developers Tax Invoice
- Consultant Certification Statement Form
- Asbuilt Statement Form

Strategic Development Unit Works Clearance Checklist

Note: Please refer to the Regional Infrastructure Technical Specifications for testing requirements and guidelines.

Consent Ref: 011.2019.7140.003 Site Address: Carrs Road, Greenhill Park

New Street Name: Stage 16 – Greenhill Park Development Engineer:

Documentation	Completed	Date	Notes
General			
GST register for all vested asset (PG L4 and PG L5)	Υ	21-3-2022	Attached
Upsize contribution documentation	N/A		
WEL completion certificate			TBC
Gas completion certificate (where necessary)	Υ	29-11-2021	Attached
UFF completion certificate	Υ	27-2-2022	Attached
Roading			
Completion Certificate (PS4 or similar)	Y	14-3-2022	Attached (schedule 6, App 4i, 4ii and 4iii)
Subgrade			
 Stringing or survey of prepared surface (relative shape and height) 	Υ	5-10-2021	Attached survey excel spreadsheet
 Compaction (natural subgrade – Scala, SIL sand- Scala, SIL brown rock – Clegg) 	Y	5-10-2021	Attached (Clegg results)
Subbase			
 Stringing (relative shape and height) 	У	13-1-2022	Attached survey excel spreadsheet
- Compaction (clegg)	У	13-1-2022	Attached
- Nuclear densometer (NDMS)	Y	14-1-2021	Attached
Basecourse			
 Stringing (relative shape and height) 	Y	18-1-2022	Attached

Γ		T = = = = = = =	Ι
- Compaction (clegg)	Y	20-1-2022	Attached
- Nuclear densometer (NDMS)	Υ	14-1-2022 & 18-1-2022	Attached
- Benkelman beam test	Υ	18-1-2022 & 21-1-2022	Attached
RAMM Pavement	Υ	28-1-2022	Attached
RAMM Surfacing	Y	28-1-2022 2-2-2022	Attached
Streetlight			
Asbuilt Plan	Υ	18-3-2022	Attached
RAMM Streetlight	Υ	21-3-2022	Attached
Copy of approved application for new connection			TBC
Producer Statement	Υ	21-3-2022	Attached
	Y (COC's)	15-12-2021	Attached
CoC or ESC signed by authorised person	Y (ROI's)	19-1-2021	Attached
Asbuilt in format approved by WEL			TBC
Confirmation of practical completion or 224c sign off			TBC
WEL Networks approval sheet (Written confirmation from WEL for the acceptance of all underground cabling and circuitry)			ТВС
Manufacturer's Warranty Documents	Y	21-3-2022	Attached
Road Drainage			
Asbuilt plan (subsoil/catchpit/leads	Y	18-3-2022	Attached
Secondary flow path	Υ	18-3-2022	Attached
Signage and Marking Asbuilt Plan	Υ	18-3-2022	Attached
Water			
Water as-built plan	Υ	18-3-2022	Attached
Data Sheet	Υ	21-3-2022	Attached
Pressure test certificate	Υ	19-11-2021	Attached
DXF (if >2 lots)	N/A		
Bacteriological test result	Y	24-11-2021	Attached

N/A		
1.47.		
Y	13-8-2021	Attached
Y	15-3-2022	Attached
Y	15-3-2022	Attached
1	1	
Y	18-3-2022	Attached
Y	21-3-2022	Attached
N/A		
Υ	8-3-2022	Attached email confirmation
Υ	22-9-2021	Attached
N/A		
Υ	Not dated	Attached (Clegg results)
Y	13-8-2021	Attached
Y	2-2-2022	Attached
Υ	2-2-2022	Attached
Υ	2-2-2022	Attached
Y	21-3-2022	Attached
N/A		No pump stations in stage 16
Y	18-3-2022	Attached
Υ	21-3-2022	Attached
	Y Y Y Y Y N/A Y Y Y Y N/A Y Y Y Y Y Y Y Y	Y 13-8-2021 Y 15-3-2022 Y 15-3-2022 Y 21-3-2022 N/A Y 8-3-2022 Y 22-9-2021 N/A Y Not dated Y 13-8-2021 Y 2-2-2022 Y 21-3-2022 Y 21-3-2022 Y 21-3-2022

	N/A		
DXF (if >2 lots)	-		
Wetland as-built plan (see RITS for minimum details required)	N/A		
Completed planting plan (confirmation that plants are in accordance with the accepted plan)	Y	17-3-2022	Attached
Proprietary device completion certificate	N/A		
Final operation and maintenance manual	N/A		
CCTV investigation	Υ	8-3-2022	Attached email confirmation
Trench backfill	Υ	Not dated	Attached (Clegg Results)
RITS checklist			
 F4.1 Stormwater design checklist, 	Υ	13-8-2021	Attached
 F4.2 Stormwater pipe laying checklist, 	Y	11-11-2021	Attached
 F4.3 Stormwater manhole checklist, 	Y	2-2-2022	Attached
 F4.4 Stormwater trench backfill compaction test summary, 	Υ	2-2-2022	Attached
 F4.5 Stormwater catchpit checklist, 	Υ	2-2-2022	Attached
 F4.6 Stormwater pipe network final inspection checklist, 	Y	18-3-2022	Attached
 F4.7 Wetland construction inspection checklist, 	N/A		
 F4.8 Wetland and inspection/Sign off checklist 	N/A		
 Final Operation and Maintenance Manual 	N/A		
 Final Water Impact Assessment 	N/A		
Parks and Open Spaces Street trees/planting sign off	Y	17-3-2022	Attached As Built Plan by Boffa Miskell

Bond		
	N/A	
Quote	'	
		To be supplied from HCC
Signed bond form		
	N/A	
Other:		



Subdivision Works Clearance Application Form

Agent details (where a	n agent is applying on behalf of the consent holder)
Agent name: Agent company: Postal address: Telephone:	
Email:	
Subject Site	
Site address: Legal description: Resource consent number: Stage (if applicable):	Date consent issued: No. of lots (excluding roads/reserves):
Clearances required	
Clearances required:	 ☐ Engineering ☐ Landscaping ☐ Other (please specify)
Certification required: Fees and payment You will be charged for the taite visits. Refer to Fees and	
Certification required: Fees and payment You will be charged for the taite visits. Refer to Fees and	Engineering Landscaping Other (please specify) time spent by staff in preparing for and undertaking engineering works clearance Charges, as set out on our website at www.hamilton.govt.nz for costs.
Fees and payment You will be charged for the site visits. Refer to Fees and Payment of fees is due upor Agent declaration As a registered professional	Engineering Landscaping Other (please specify) time spent by staff in preparing for and undertaking engineering works clearance Charges, as set out on our website at www.hamilton.govt.nz for costs. In invoice which will be issued at s224c subdivision certification stage.
Fees and payment You will be charged for the site visits. Refer to Fees and Payment of fees is due upor Agent declaration As a registered professional	Engineering Landscaping Other (please specify) time spent by staff in preparing for and undertaking engineering works clearance Charges, as set out on our website at www.hamilton.govt.nz for costs. In invoice which will be issued at s224c subdivision certification stage.

Planning Guidance

Send applications to subdivision@hcc.govt.nz, drop off via the duty planner at the Municipal Building Garden Place, between 8am — 4.45pm, Monday to Friday or post to Planning Guidance Subdivisions, Hamilton City Council, Private Bag 3010, Hamilton 3240. Documentation to provide: The attached checklist All required information listed in the checklist

OFFICE USE ONLY	O Documentation saved to TRIM	 Authority updated 	Acknowledgement sent



Works Clearance Checklist

PART A - QA DOCUMENTATION:		
a. General		
	Received	Date
Easements required		
Consent notices required		
Power, telecommunication, gas connections certification		
Contractor Certificate		
Producer Statement		
b. Parks		
Landscaping Plans Accepted Date:		
	Approved by	Date
Final Inspection Checklist		
c. Roading		
Engineering Plans Accepted Date:		
	Approved by	Date
Subgrade Compaction/Relative Height		
Subbase Compaction/Relative Height		
Basecourse Compaction/Relative Height		
Penetrometer Results		
Clegg Hammer Results		
Benkelman Beam Results		
d Chamanatan		
d. Stormwater		
Engineering Plans Accepted Date:		
	Approved By	Date
Wetlands and Ponds Management Checklist		
Wetlands and Ponds Inspection Checklist		
Pipe Laying Checklist		
Manhole Checklist		
Trench Backfill Compaction Test		
Catchpit Checklist		
Final Inspection Checklist		
Stormwater device Operations and Maintenance Manual so	upplied	

Planning Guidance

e. Wastewater Engineering Plans Accepted	Date:		
		Approved By	Date
Pipe Laying Checklist			
Manhole Checklist			
Trench Backfill Compaction Test			
Final Inspection Pipe Network			
Pumping Station Check Forms			
Pressure Test Results			
f. Water			
Engineering Plans Accepted	Date:		
Form/Process		Approved By	Date
Pipe Laying Checklist			
Final Inspection Checklist			
Pressure Test Results			
Bacteriological Test Results			

PART B - ASBUILT DATA:

a. Roading

Data	Received	Checked
RAMM data		
Streetlight Data		
Asbuilt Plans		
DXF Files		

b. Stormwater

Data	Received	Checked
Datasheets		
Asbuilt Plans		
DXF Files		

c. Wastewater

Data	Received	Checked
Datasheets		
Asbuilt Plans		
DXF Files		

d. Water

Data	Received	Checked
Datasheets		
Asbuilt Plans		
DXF Files		

e. Parks

Data	Received	Checked
Datasheets		
Asbuilt Plans		
DXF Files		

f. Finance

Data	Received	Checked
GST Values		
Land Values		
Asset Quantities		

PART C – CONDITIONS/BONDS:

Documentation	Received	Checked
Engineering conditions attached and completed		
Bond requested and quote attached		



Subdivision Certification Application Form

Agent details (where an agent is applying on behalf of the consent holder)			
Agent name:			
Agent company:			
Postal address:			
Telephone:			
Email:			
Preferred means of contac	t: Mail	○ Email ○ Phone	
Consent holder nar	ne		
Consent holder name:			
Postal address:			
Telephone:			
Email:			
_ 1 . 1			
Debtor details (for in	voicing)		
Debtor details (for in	voicing) Agent Owner	Other (please specify)	
		Other (please specify)	
Debtor is:		Other (please specify)	
Debtor is: Debtor's Name: Postal address:		Other (please specify)	
Debtor is: Debtor's Name:		Other (please specify)	
Debtor is: Debtor's Name: Postal address:		Other (please specify)	
Debtor is: Debtor's Name: Postal address: Subject Site		Other (please specify)	
Debtor is: Debtor's Name: Postal address: Subject Site Site address:	Agent Owner	Other (please specify) Stage Number:	
Debtor is: Debtor's Name: Postal address: Subject Site Site address: Legal description: Resource consent number:	Agent Owner		
Debtor is: Debtor's Name: Postal address: Subject Site Site address: Legal description:	Agent Owner		
Debtor is: Debtor's Name: Postal address: Subject Site Site address: Legal description: Resource consent number:	Agent Owner		

Planning Guidance

Condition(s) of consent requirements

As a registered professional surveyor/planner, I confirm that:

- 1. For larger/complex consents, I have attended a pre-application meeting with Hamilton City Council staff to review my draft s224c application.
- 2. I hereby attach all information required to satisfy Hamilton City Council that all conditions specified in the subdivision consent referenced above (in terms of certification required) have been met.
- 3. I accept that where it is found that not all information required under clause 2 above is provided, this application shall be returned to the address for re-lodgement.
- 4. Where an engineering or similar professionally prepared plan and supporting information (such as landscaping or ecological plan) has to be approved by council, I have attached written evidence of such approval.
- 5. Where evidence of completion and approval of all physical works is required (e.g. construction of services, landscape planting). I have attached written evidence of such approval.
- 6. The required Landonline electronic certification documentation have been prepared and submitted to Hamilton City Council for approval.

Acceptance I confirm that all of the above have been satisfied. Name:	Date:
Send	
Send applications to subdivision@hcc.govt.nz , drop off via the duty planner Garden Place, between 8am – 4.45pm, Monday to Friday or post to Plannin Hamilton City Council, Private Bag 3010, Hamilton 3240 .	
Remember to attach:	
Conditions of subdivision consent documentation Works clearance certificate	

Hamilton City Development Manual	
Volume 4 : Quality Systems for Land Development Part 9 — Append	
Authorised by: Design Services Manager	

APPENDIX 4 ii)

PRODUCER STATEMENT — CONSTRUCTION

CONTRACTOR'S CERTIFICATE UPON COMPLETION OF SUBDIVISIONAL WORK

Online Contractors 2016 Ltd	
(Contractor)	
TO: Chedworth Properties Ltd	
(Principal)	
TO BE SUPPLIED TO: Hamilton City Council	
(Territorial Authority)	
IN RESPECT OF: Greenhill Park Stage 16	
(Description of subdivisional	
AT:	
(Address)	
Online Contractors 2016 Ltd has contracted to (Contractor)	Chedworth Properties Ltd (Principal)
to carry out and complete certain subdivisional work in accordance	·
forfor	("the contract")
Dan Hopper I	ve of(Contractor)
hereby certify thatOnlne Contractors 2016 Ltd	
has carried out and completed the subdivisional works, other thaccordance with the contract.	
Dan Hopper (Signature of Authorised Agent on behalf of)	Date
Online Contractors 2016 Ltd	
(Contractor)	
PO Box 21187, Rototuna, Hamilton	
(Address)	
Outstanding Works	

Version : August 2007

NZS 3910:2013 Conditions of contract for building and civil engineering construction

SCHEDULE 6 - FORM OF PRODUCER STATEMENT - CONSTRUCTION

ISSUED BY	ONLINE CONTRACTORS 2016 LTD
то	CHEDWORTH PROPERTIES LTD
IN RESPECT	GREENHILL PARK STAGE 16
OF	INCLUDING: SUBDIVISION CIVIL WORKS, ROADING AND EARTHWORKS
AT	GREENHILL PARK, HAMILTON
ONLINE CONTRACTORS 2016 LTD has contracted to complete certain building works in accordance with a Co I Daniel Hopper a duly authorised representative of reasonable grounds that ONLINE CONTRACTORS 201	ontract titled GREENHILL PARK STAGE 15. ONLINE CONTRACTORS 2016 LTD believe on
☑ AII	
$\hfill \square$ Part only as specified in the attached particulars of the strategies of	he contract works in accordance with the Contract.
Daniel Hopper	14/3/22
Signature of Authorised Agent on behalf of	Date

ONLINE CONTRACTORS 2016 LTD PO BOX 21187 ROTOTUNA HAMILTON 3256





Title Plan - LT 570351

Survey Number 10: 57(1351)

Surveyor Reference | 30378-05 | Arca LUK | Stage 16

Surveyor Short Rudney Carley

Survey Firm Shompton and Lipinski Lomited Parmership

Surveyor Declaration

Survey Details.

Datasel Description, Loss 2, 100, 301, 450-480, 311, 8001-8024, 8117 & 8149 Being a Sudivision of Lor 2 DF 534384

Status Initiated

Land District South Vackland Survey Class Class A

Submitted Date Survey Approval Date

Deposit Date

Territorial Authorities

Hantiaon City

Comprised In

RT880927

Createst Parcels

Parcels	Parcel Intent	Атев	R1 Reference
Lot 2 Deposited Plan 570351	Fee Simple Tale	19.5600 Ha	11(31(213)
Lot 100 Deposited Plan \$70351	Vesting on Deposit for Road	LOTO Ha	
Lot 301 Deposited Pair \$70351	Vesting on Deposit for Local Purpose Reserve	0,2760 Ha	1030214
Lot 450 Deposited Plan 570351	free Simple Title	6,04 H Ha	1030215
Lor 451 Deposited Plan 570351	Fee Simple Tide	UD3466 Ha	1030246
Lot 452 Deposited Planes /10351	The Simple Title	$0.0278\mathrm{Hz}$	10,90217
Lot 453 Deposited Plan 570351	Fee Simple Title	0.0391 Ha	1030218
Lot 154 Deposited Plan 570051	Fee Simple Tale	$0.0971\mathrm{Hz}$	11(50219)
Lot 455 Deposited Plan 570351	Fee Simple Title	0.0329 Ha	1030220
Lot 156 Deposited Plan 570351	Fee Simple Tale	H 0558 Ha	11(31)221
Lot 4°7 (Separated Plan °7035)	Lee Simple Title	0.0345 Ha	1030222
Lot 158 Deposited Plan 570351	Fee Simple Title	H 0445 Ha	11030223
Lot 450 Deposited Planes /1035	hee Simple Title	0.0745 Ha	1030224
Log 400 Deposited Plan 570351	Fee Simple Title	0.03 (5 Ha	1030225
Lot 461 Deposited Plan 570351	Fee Simple Title	0.0345 Ha	1030226
Lot 462 Deposited Plan 570351	Fee Simple Title	0.03 I5 Ha	1030227
Lot 163 Deposited Plan 570351	Fee Simple Tatle	11/0425 Ha	11030228
Lot 464 Deposited Plan 570351	Fee Simple Title	0.0200 Ha	1030229
Lot 165 Deposited Plan 57035 c	Fee Simple Tale	H 04.35 Ha	111311230
Lot 466 Deposited Plant \$70351	Fee Simple Title	0.0345 Ha	1030231
Lot 467 Deposited P an 57035.	Fee Simple Title	0.0345.05	1030232
Lot 468 Deposited Plan 570351	The Simple Title	0.0745 Ha	1030233





Title Plan - LT 570351

Created Parcels			
Parcels	Parcel Intent	Area	RT Referenc
Lot 169 Deposited Plan 57035	Fee Simple Tale	H (0.45 Ha)	11(31)*34
Lot 47h Deposited Pain 570351	Lee Simple Title	0.0345 Ha	1030235
Lot 171 Deposited Plan 57035.	Fee Simple Tale	0.044510	1030236
Lot 47.5 Deposited Plan 570355	Fee Simple Title	0.0490 Ha	1030237
Lot 473 Deposited Plan 570351	Fee Simple Title	0.0110 Ha	1030238
Lot 474 Deprisited Plan 570351	hee Simple Talle	n (9447 Ha	11(3)(2,39)
Lot 475 Deposited Plan 570351	Fee Simple Title	0.0362 Ha	1030240
Lot 176 Deposited Plan 57035 :	Fee Simple Title	HO428115	1030241
Lot 477 Deposited Plan 570351	Fee Simple Title	0.0434 Ha	1030242
Lot 178 Deposited Plan 57035	Fee Simple Tale	H 0400 Ha	11130243
Lot 479 Deposited Pair \$703\$1	free Simple Title	0.0400 Ha	1030244
For 480 Deposited P an 57035.	Fee Simple Tale	0.0396 Ha	1030245
Lot STE Deposited Plan 570351	The Simple Title	0.0091 Ha	Multiple
For 8001 Deposited Plan 570353	Fee Simple Title	0.0211 Ha	1030246
Lot 8002 Deposited Plan 570351	Fee Simple Tale	0.0182 Ha	11(3)(246)
For Shirt Deposited Plan 570351	Fee Simple Title	0.0182 Ha	1030247
Lot 8001 Deposited Plan 570351	Fee Simple Tale	0.0185415	11(3)(247)
Lot 8005 Deposited Plan 570351	Fee Simple Title	0.0213 Ha	1030248
Lot 8006 Deposited Plan 570351	Fee Simple Tale	110.91511.5	11130248
Lot 8007 Deposited Plan 570351	Fee Simple Title	0.0189 Ha	1030249
For 8008 Deposited Plan 570351	Fee Simple Title	0.0191 HP	1030249
Lot 8009 Deposited Plan 570351	The Simple Title	0.0192 Ha	1030250
For 8010 Deposited Plan 570353	Fee Simple Title	0.0191 Ha	1030280
Lot 801: Deposited Plan 570351	Fee Simple Tale	0.0925 Ha	11030250
For 8012 Deposited Plan 570351	Fee Simple Title	0.0272 Ha	1030251
Lot 8013 Deposited Plan 570351	Fee Simple Tale	0.017710	1030251
Lot 8014 Deposited Plan 570351	Lee Simple Title	0.0177 Ha	1030252
Let 8015 Deposited Plan 570351	Fee Simple Tale	11/01/77115	11/3/1252
Lot 8016 Deposited Plan 570351	hee Simple Title	0.0177 Ha	1030253
Lot 8017 Deposited Plan 570351	Fac Simple Title	0.0272 Ha	1030253
Lot 8018 Deposited Plan 570351	The Simple Title	0.0250 Ha	10,902,54
Lot 8019 Deposited Plot 570351	Fee Simple Title	0.01 I5 Ha	1030254
Lot 8020 Deposited Plan 570381	Fee Simple Tale	$0.0145H_{0}$	11(3)(255)
Lot 802 Deposited Plan 570351	Fee Simple Title	0.01 I5 Ha	1030255
Lot 8022 Deposited Plan 570351	Fee Simple Tale	H (014° H.)	11(3)(256)
Lot 8023 Deposited Plan 570351	Lee Simple Title	0.0145 Ha	1030256
Let 8024 Deposited Plan 570351	Fee Simple Tule	0.0145.05	1030257
Lot 8117 Deposited Plan 5/10351	Fee Simple Title	0.0229 Ha	1030257
Lor 8119 Deposited Plan 570351	Fee Simple Title	LH 4650.0	Multiple
Area A Deposited Plan S/0351	Pusement		-
Area I Deposited Plan 570751	Easement		
Area J Deposited Plan 570351	lasement		
Vrea K Deposited Plan 570351	Pasement		
Area B Deposited Plan 570551	Hasement		





Title Plan - LT 570351

Created Parcels			
Parcels	Parcel Intent	Area	RT Reference
Area C Deposited Plan 570351	Hasamant		
Area M Deposited Plan \$7(1351)	Lasemeni		
Area W Deposited Plan 570351	Hasement		
Area X Deposited Plan \$70351	Lusement		
Area F Deposited Plan 570351	Ease near		
Total Area		32 9001 Hat	



S&L Project Reference: 30378-05 - Area LUK - Stage 16

Land Registration District	Plan Number
South Auckland	DP 570351
Territorial Authority (the Council)	
Ham Iton City Council	

Memorandum of Easements			
Purpose	Shown	Burdened Land	Benefited Land
Bight of way Right to crowey declarity -	۵	Lot 8119 herese	Lots 9:12 - Afd 7 hereon
Telecommunications and gas Highlito drain water and sewage	16.7	Int 811 nerron	Let 455 herron & Let 456 hereon

Schedule of Easements in Gross				
Purpose	Shown	Burdened Land	Grantee	
Orable da atasia creatas	1	Lot &L1 hereon	- amilton (Sh. Ca. and	
Right to drain water -	<	Lot 450 hereon	Hamilton (Tity Council	
Right to convey water	A	ct 9119 Ferren	-amilton City Courvel	
Right to corvey telecommunical onv	A	.51 9119 hercon	Tuetahi First Hare Limited	
Right to convey telecommunications	1	Lot 811 hereon	Tuataly First From united	
Right to convey electricity & telecontrollings on the controlling of t	ä. J	Lot 811 hawon	Wt_ Notworks timited	

Schedule of Existing Easements				_
Purpose	Shown	Burdened Land	Document Number	
Right of way	3	Lot & hercon	E 11070524.17	



S&L Project Reference: 30378-05 - Area LUK - Stage 16

Schedule of Existing Easements in Gross					
Purpose	Shown	Burdened Land	Grantee	Document Number	
Right to convey electricity and felecommunications		Lot 2 herron	Transpower New Zealand Jimited	FI 10700635 I	
Right of way	Б	Lot 2 hericon	Transpower New Zealand urrited	E 11070524.76	
Right to convey electricity and telescommunications	8 % C	Lot 2 hereon	Transpower New Zealand limited	E 11070574 14	
Right to sorvey electricity for earthing purposes	6	Let 2 detron	Transpower New Zealand urrited	6 11070924 15	
Right to convey telecommunications and computer media	В	Lat 2 herean	Transpower New Zealand limited	E 11070524.10	
Right to convey, discharge and earth electricity	М	Let 2 herson	Transposer New Zealand limited	E 11070524.13	
Right to convey elected by toleronnic nickless and computer media	W A 8	Let 4 detren	WE Networks Jamied	F 1111701574.30	

Certifying parties must sign or initial the box



S&L Project Reference: 30378-05 - Area LUK - Stage 16

Land Registration District	Plan Number
South Auckland	DP 570351

Territorial Authority (the Council)

Hamilton City Council

Amalgamation Conditions

(Pursuant to \$320 Besource Management Act 1991).

That Lot 5119 hereon (legal access) be held as to six undervided one sixth shares by the owners of Lots 8012, 2013, 5014, 8015, 8015 and 8017 hereon and individual records of title be issued in accordance thereon th

That Lot 811 hereon (legal access) be held as to two undivided one half shares by the owners of Lots. 455-8: 456 hereon and individual records of little be issued in accompanie Therewith.

That Lots 8001 St 8002 hereonine held in the same record of fit e

That Lots 8003 & 6004 hereon be held in the same record of title

That Lots 8005 & 8006 hereon be held in the same record of title.

That Lots 8007 8: 8008 hereonide held in the same record of fit e

That Lots 8009, 5010 & 8011 hereon be held in the same record of title

That Lots 6012 & 6013 hereonige held in the same record of title

That Lots 6014 & 5015 hereon be held in the same record of title

That Lots 8016 8: 5017 hereonige held in the same record of little.

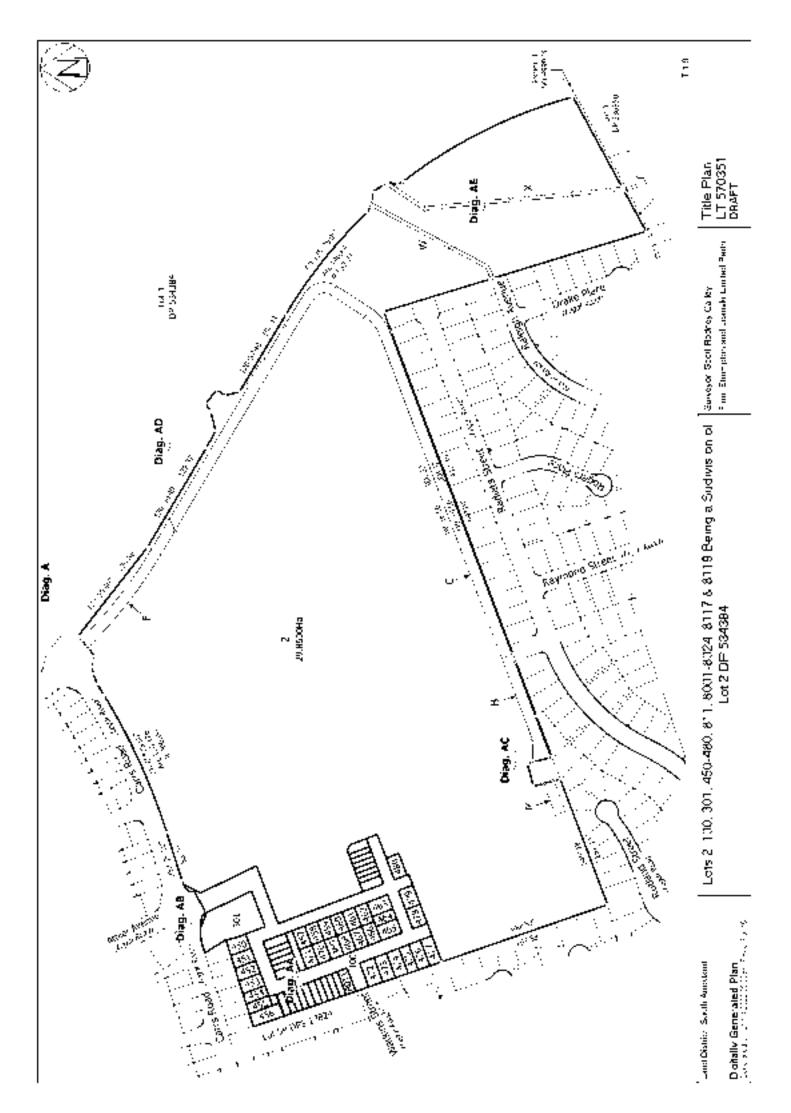
That Lots 6018 & 5019 hereon be held in the same record of title.

That Lots 8000 8/8001 hereonine held in the same record of life.

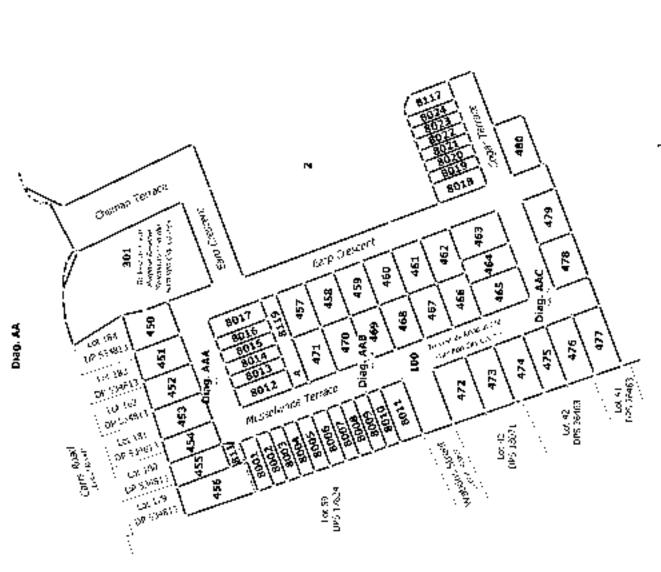
That Lots 6022 & 5023 hereonipe held in the same record of title.

That Lots 8024 & 5117 hereon be held in the same record of title.

LINZ Reference, 1682792 & 1958892







Lots 2, 100, 301, 450-480, 811, 80011-8024, 8117, 6, 8119 Being a Sudivision of Lot 2 DF 534384

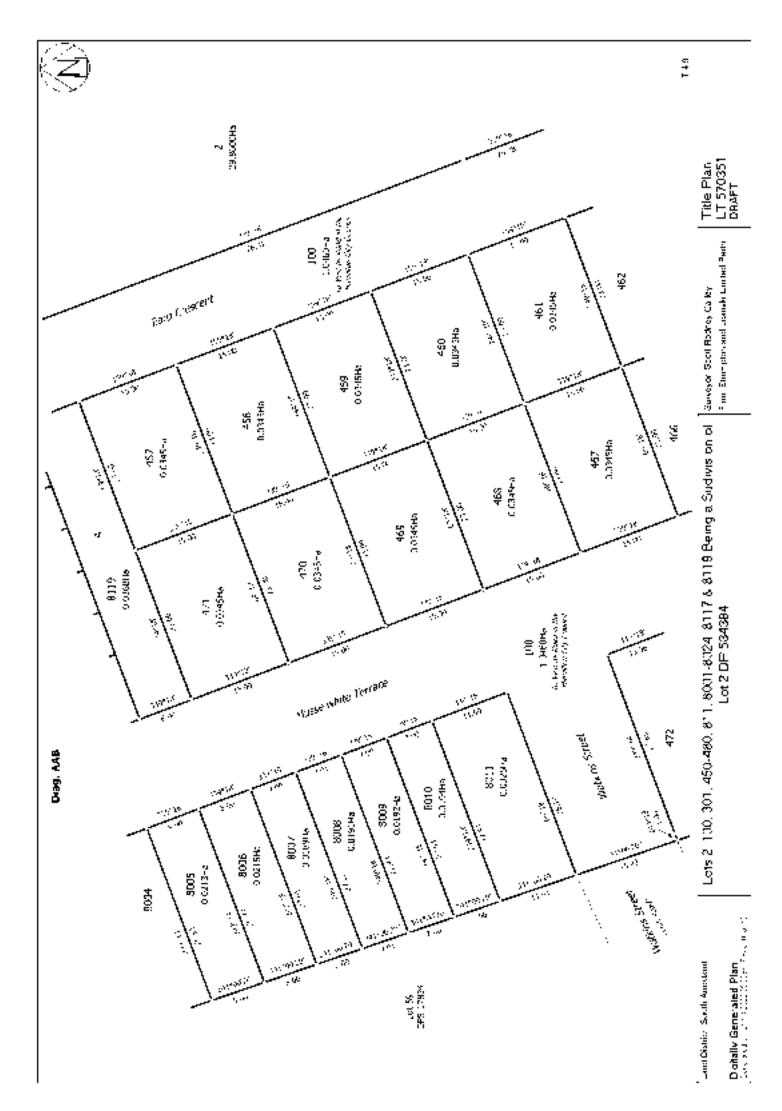
Surveyor Sport Rodney Calley

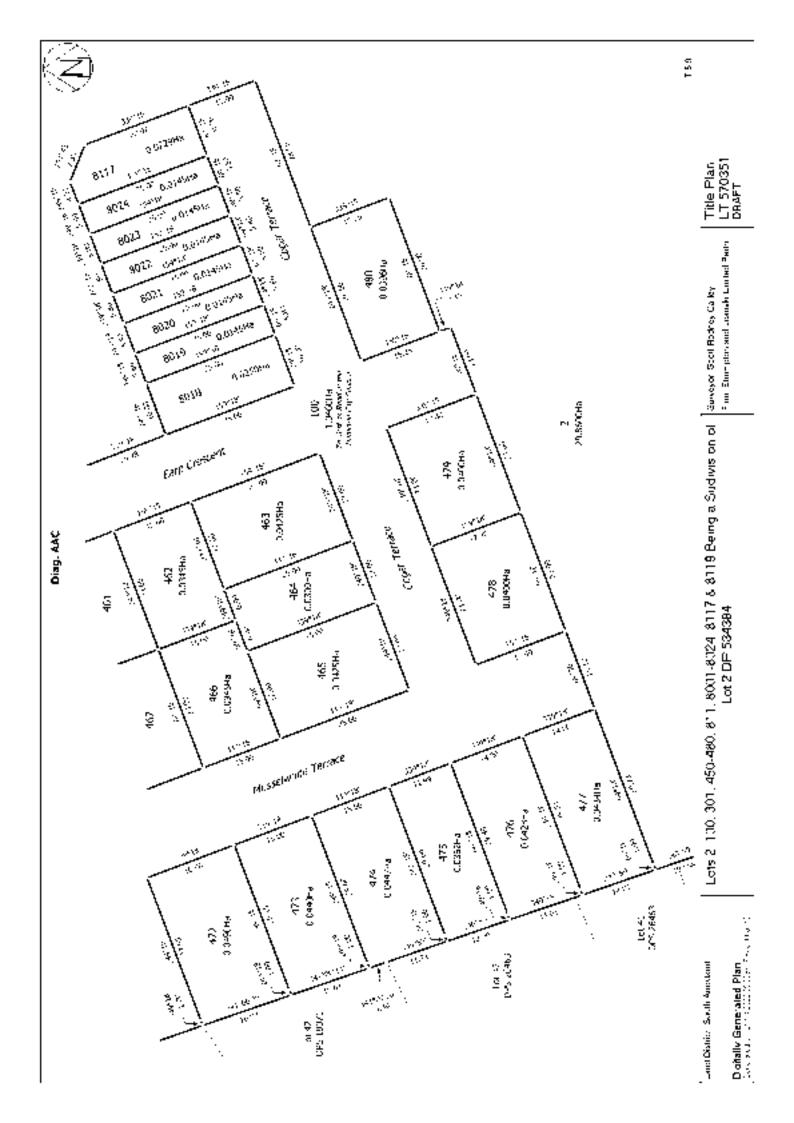
Title Plan LT 570351 DRAFT Time Shirt plans and Justick Limited Berlin

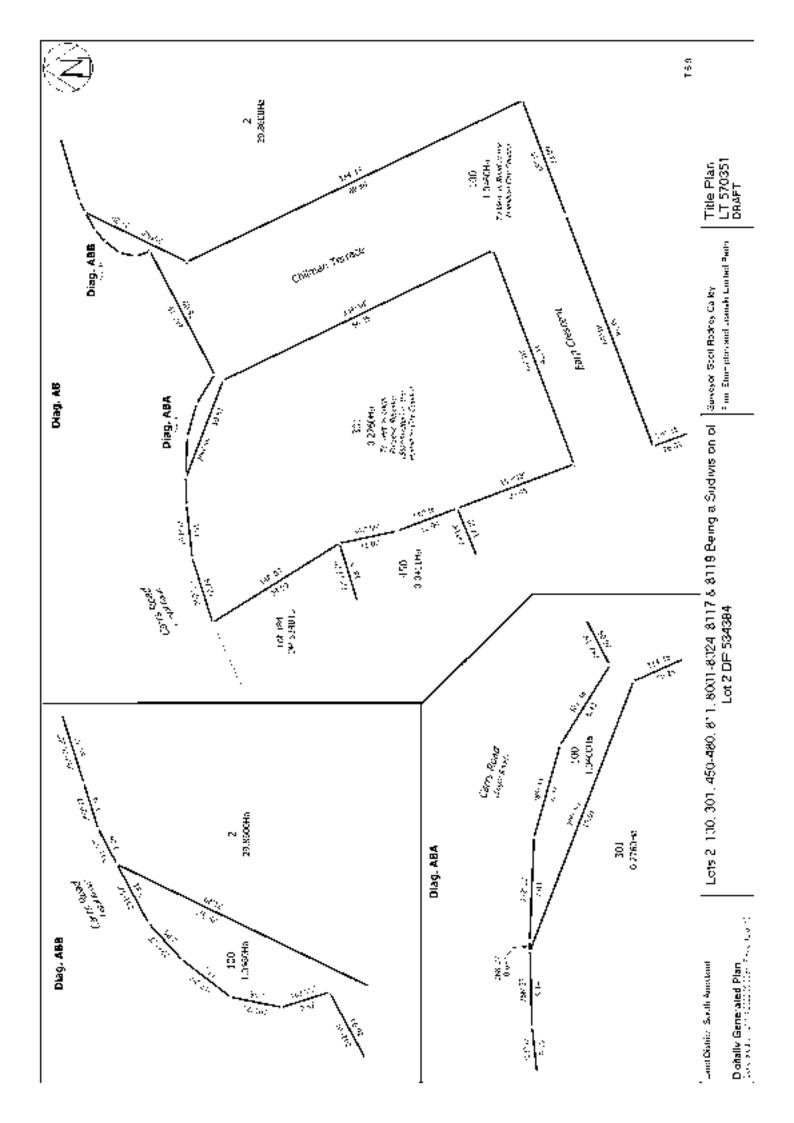
Dohally Generated Plan
Second 1990 (1990)

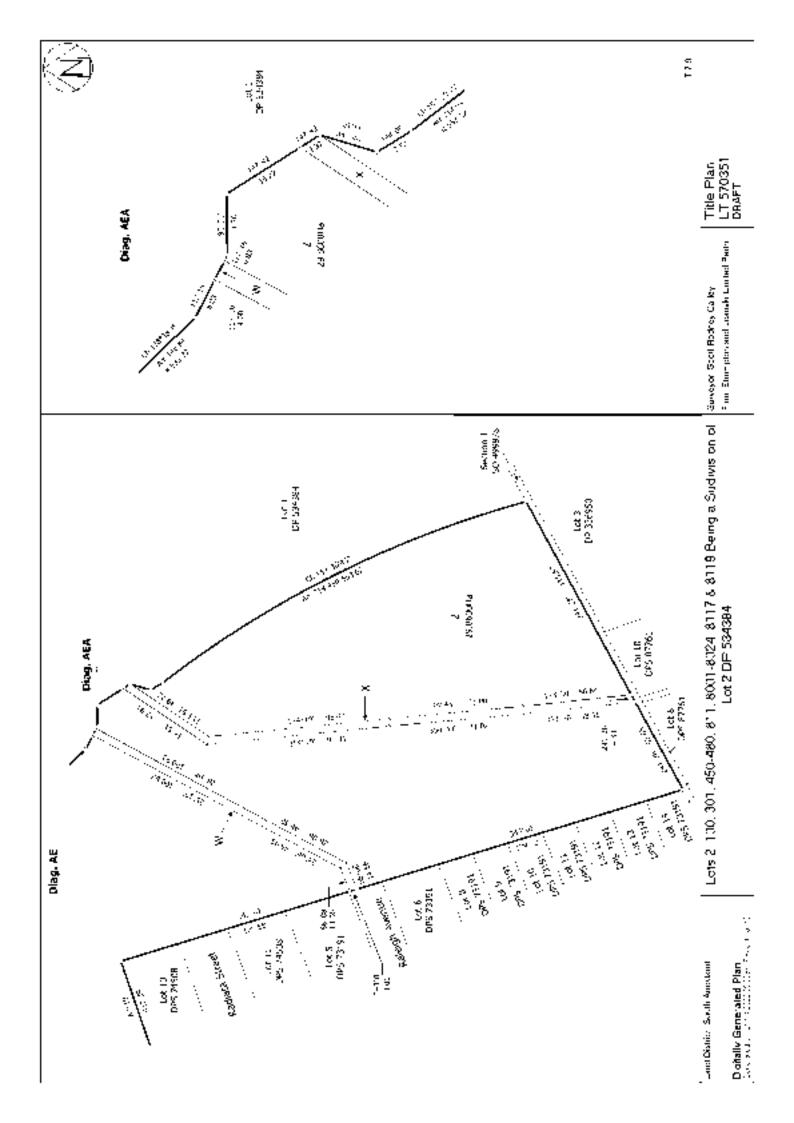
Land District South Americant

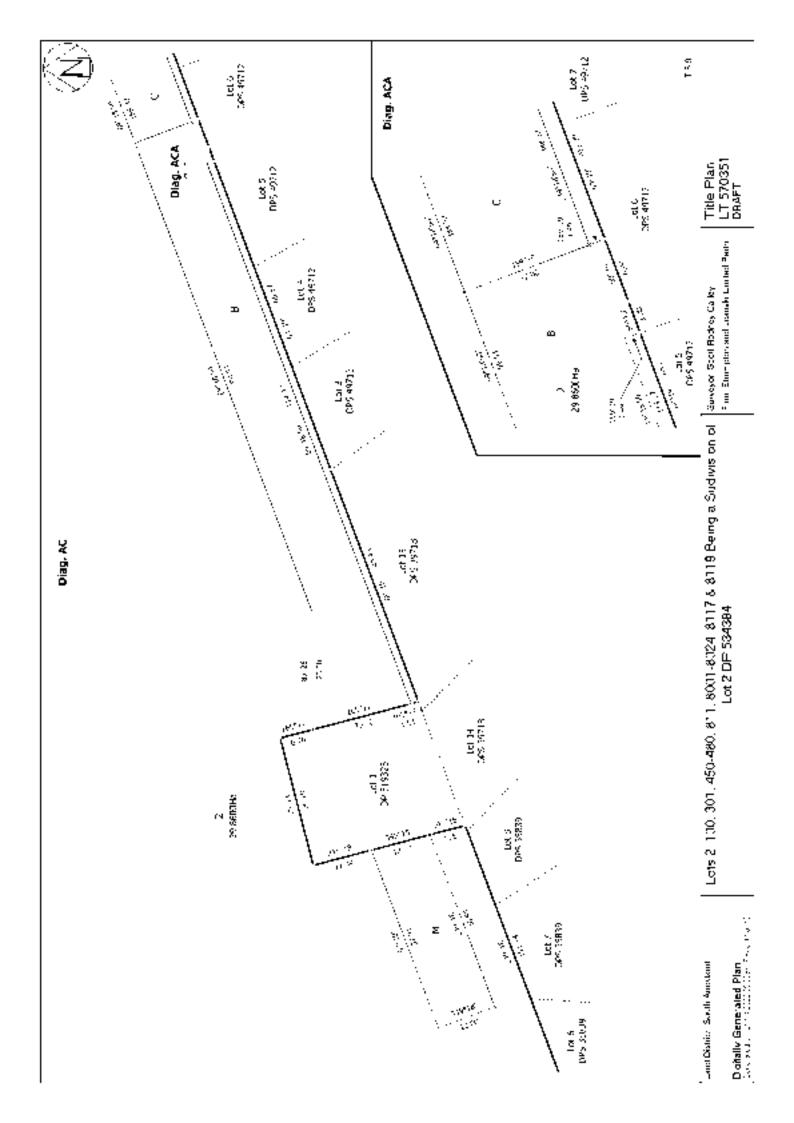


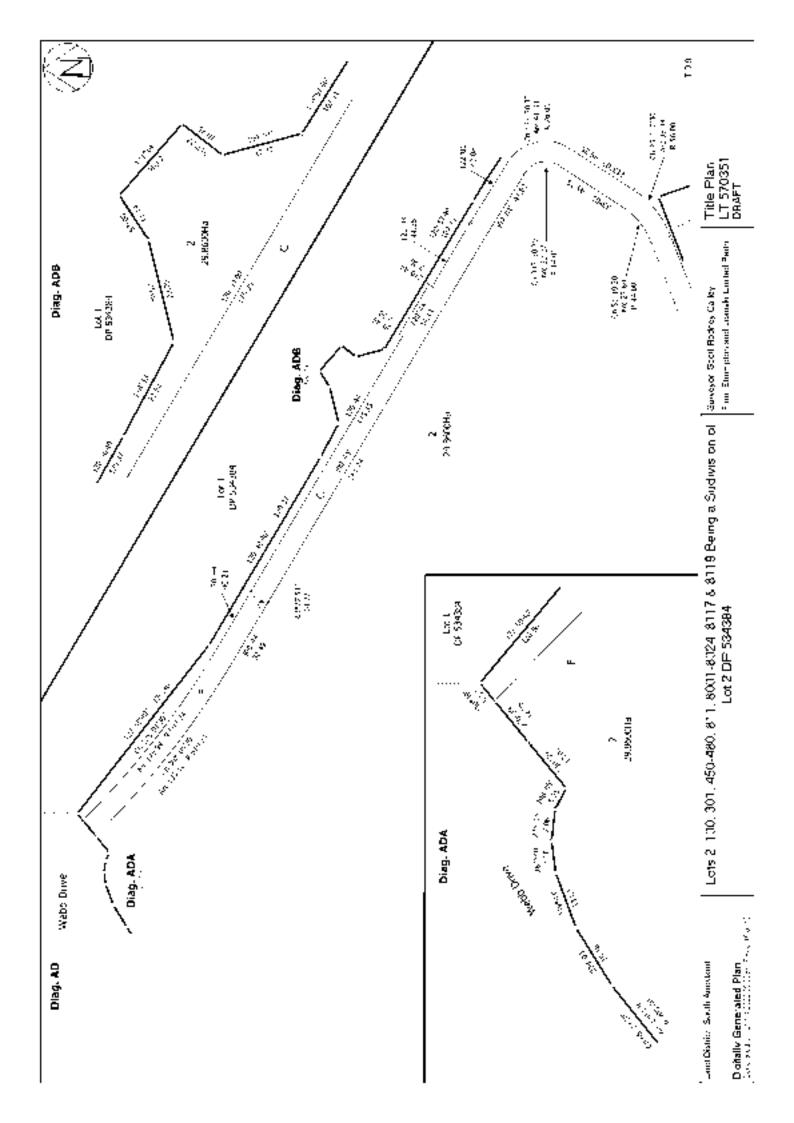












SCHEDULE OF LAND AND ASSETS TO VEST IN COUNCIL

Hamilton City Council will use these values to record the assets once ownership has transferred following approval of s224c certification.

GENERAL DETAILS	
Subdivision name:	
Site address:	
HCC application number:	
DPS number(s):	
Developer name:	
Postal address:	
Suburb:	
City: Postal code:	
This information is certified as being true and correct	
Completed by: Land owner Agent Other (please specify)	
Name:	
Signature:Barry Pearson	

SEND

Email this to subdivision@hcc.govt.nz. Alternatively, if you are attending a works clearance pre-application meeting, please bring this completed form with you.

SUMMARY OF LAND AND ASSETS TO VEST IN COUNCIL (excluding GST)

ASSET TYPE		COST/VALUE	REMOVE COUNCIL'S CONTRIBUTION	TOTAL VESTED
Land	(A)			
Water supply	(B)			
Wastewater	(C)			
Stormwater	(D)			
Roading	(E)			
Parks	(F)			
Other	(G)			
TOTAL (excluding GST)				





SCHEDULE OF LAND AND ASSETS TO VEST IN COUNCIL

DPS

LAND, WATER SUPPLY, WASTEWATER AND STORMWATER (All values are to be exclusive of GST)

MEASURE (AREA M2)

		The state of the s	1
Roading			
Recreation reserve			
Local purpose reserve			
Other - please specify		T.	
	TOTAL		
	TOTAL VESTED		
WATER SUPPLY (B)	MEASURE	COST/VALUE	COUNCIL'S CONTRIBUTION
Mains	Metres		CONTRIBUTION
Ridermains	Metres		
Services	No.		
Hydrants	No.		
Sluice and peat values	No.		
Other - please specify			l
E			
	TOTAL	1	
	TOTAL VECTED		
	TOTAL VESTED		
WASTEWATER (C)		COST/VALUE	COUNCIL'S
	MEASURE	COST/VALUE	COUNCIL'S CONTRIBUTION
Mains	MEASURE Metres	COST/VALUE	COUNCIL'S CONTRIBUTION
WASTEWATER (C) Mains Manholes Connections	MEASURE Metres No.	COST/VALUE	COUNCIL'S CONTRIBUTION
Mains Manholes Connections	MEASURE Metres	COST/VALUE	COUNCIL'S CONTRIBUTION
Mains Manholes Connections	MEASURE Metres No.	COST/VALUE	COUNCIL'S CONTRIBUTION
Mains	MEASURE Metres No.	COST/VALUE	COUNCIL'S CONTRIBUTION
Mains Manholes Connections	MEASURE Metres No. No.	COST/VALUE	COUNCIL'S CONTRIBUTION
Mains Manholes Connections	MEASURE Metres No. No. TOTAL	COST/VALUE	
Mains Manholes Connections Other - please specify	MEASURE Metres No. No. TOTAL	COST/VALUE COST/VALUE	COUNCIL'S CONTRIBUTION COUNCIL'S CONTRIBUTION
Mains Manholes Connections	MEASURE Metres No. No. TOTAL TOTAL VESTED		COUNCIL'S
Mains Manholes Connections Other - please specify STORMWATER (D) Mains	MEASURE Metres No. No. TOTAL TOTAL VESTED MEASURE		COUNCIL'S
Mains Manholes Connections Other - please specify STORMWATER (D)	MEASURE Metres No. No. TOTAL TOTAL VESTED MEASURE Metres		COUNCIL'S
Mains Manholes Connections Other - please specify STORMWATER (D) Mains Manholes	MEASURE Metres No. No. TOTAL TOTAL VESTED MEASURE Metres No.		COUNCIL'S
Mains Manholes Connections Other - please specify STORMWATER (D) Mains Manholes Connections	MEASURE Metres No. No. TOTAL TOTAL VESTED MEASURE Metres No. No.		COUNCIL'S
Mains Manholes Connections Other - please specify STORMWATER (D) Mains Manholes Connections Outfalls (inlet/outlet structures)	MEASURE Metres No. No. No. TOTAL TOTAL VESTED MEASURE Metres No. No. No.		COUNCIL'S
Mains Manholes Connections Other - please specify STORMWATER (D) Mains Manholes Connections Outfalls (inlet/outlet structures) Wetland/rain garden planting	MEASURE Metres No. No. No. TOTAL TOTAL VESTED MEASURE Metres No. No. No.		COUNCIL'S
Mains Manholes Connections Other - please specify STORMWATER (D) Mains Manholes Connections Outfalls (inlet/outlet structures) Wetland/rain garden planting	MEASURE Metres No. No. No. TOTAL TOTAL VESTED MEASURE Metres No. No. No.		COUNCIL'S



LAND (A)



COUNCIL'S CONTRIBUTION

COST/VALUE

SCHEDULE OF LAND AND ASSETS TO VEST IN COUNCIL

ROADING, PARKS AND OTHER (All values are to be exclusive of GST)

ROADING (E)	MEASURE	COST/VALUE	COUNCIL'S CONTRIBUTION
Pavement	Area (m²)		
Surfacing	Area (m²)		
Kerb and channel (full height)	Metres		
Berms	Area (m²)		
Footpaths (inc. walkways & cycleways)	Area (m²)		
Vehicle crossings (excl. residential)	Area (m²)		
Road drainage (catchpits & leads)	No.		
Street lighting	No.		
Signage	No.		
Subsoil drains	Metres		
Tactile pavers	No.		
Parking and bus bays	Area (m²)		
Sundries (bridges/culverts/walls/etc)	No.		
Other - please specify			
	TOTAL		
	TOTAL VESTED		
			COUNCING

PARKS (F)	MEASURE	COST/VALUE	COUNCIL'S CONTRIBUTION
Bollards	No.		
Landscaping (trees, shrubs)	Area (m²)		
Paths	Area (m²)		
Fencing	Metres		
Play equipment	No.		
Seats/benches/tables	No.		
Other - please specify			
	TOTAL		
	TOTAL VESTED		

OTHER (G)	MEASURE		COST/VALUE	COUNCIL'S CONTRIBUTION		
Buildings	No.					
Other - please specify						
	TOTAL					
	TOTAL VES	TED				

PLANNING GUIDANCE



Hamilton City Development Manual					
Volume 4 : Quality Systems for Land Development	Part 9 — Appendices				
Authorised by: Design Services Manager					

APPENDIX 4 i)

CERTIFICATION UPON COMPLETION OF ROADS, PIPELINES AND OTHER SERVICES

ISSUED BY: Barry Pearson							
	(suitably qualified p	orofessional)					
TO: Chedworth Properties Ltd	l						
	(Development	Owner)					
TO BE SUPPLIED TO:Hamilto	on City Council						
	(Territorial Au	thority)					
IN RESPECT OF: Greenhill Pa							
Orana Barad Objective att. Hear	(Description of Develo	pment Project)					
AT:Carrs Road, Chedworth, Har	niiton, New Zealand						
	(Address	5)					•
S&L	has been eng	aged by	nedworth Pro	perties	Ltd		
(Survey Firm)	0	,	(Develop	ment Ov	vner)		
to provide construction observatio	n, review and certifica	tion services	in respect	of the	above d	levelopme	nt
which is described in the specification	on and shown on the dr	awings numb	pered3041	0-01-S	16-R1 to 3	0410-01-S	16-EW
approved byHamilton City Cou	ncil						
	(Territorial Autho	•					
I have sighted the Hamilton City (Council 011.2019.7140.00	03 co	nsent and c	onditio	ns of cons	ent to the)
$^{(T)}$ Development and the approved spe	erritorial Authority)						
As an independent professional, I or appropriate to the engagement and the course of the works and the BELIEVE ON REASONABLE GROUID been completed in accordance with	d based upon these rev contractor's certificatio NDS that the works, ot	views, inform n upon com her than thos	ation suppli pletion of t se outstandi	ed by he wo ng wo	the contr rks (copy	actor durii attached)	ng) I
		Date .	18/3/20	22			
(Signature suitably qualified F	Professional)						
		Member	CSNZ		NZIS		
(Professional Qualification	ons)						
			ACENZ		IPENZ		
(Address)			CPEng	X			
Outstanding Works			Creffg	ш			
Nil							
							-
							•
						• • • • • • • • • • • • • • • • • • • •	•

Version : August 2007

Hamilton City Development Manual					
Volume 4 : Quality Systems for Land Development Part 9 — A					
Authorised by: Design Services Manager					

APPENDIX 4 iii)

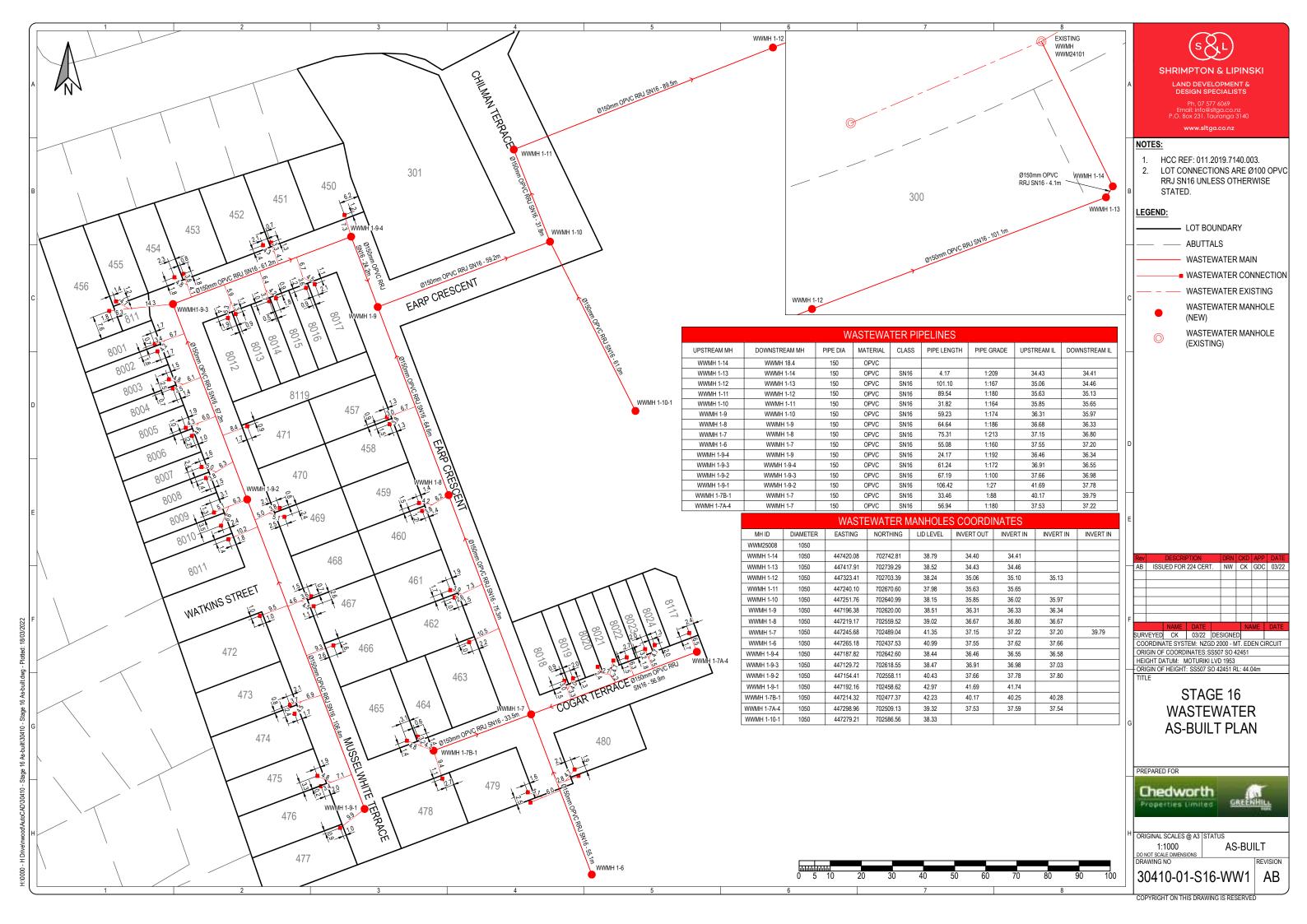
	HAMILTON CITY COUNCIL
	CERTIFICATE FOR AS-BUILT DRAWINGS
Greenhill Park -	Stage 16 DEVELOPMENT
I, Barry Pearson	, Chartered Professional Engineer/Surveyor,
hereby certify that all of th	e information shown on the "as built" drawings and spreadsheets is
correct as to location (x, y a	nd z co-ordinates), size, materials. This applies to the following "as
built" drawings:	
Drawing No.	Title
•	B Stage 16 Wastewater Asbuilt Plan
	Stage 16 Water Reticulation Asbuilt Plan
30410-01-S16-SW1 Rev AB	Stage 16 Stormwater Asbuilt Plan
30410-01-S16-R1-Rev AB	Stage 16 Roading Asbuilt Plan
	Barry Pearson
	Chartered Professional Engineer/Surveyor
	18/03/2022
	Date

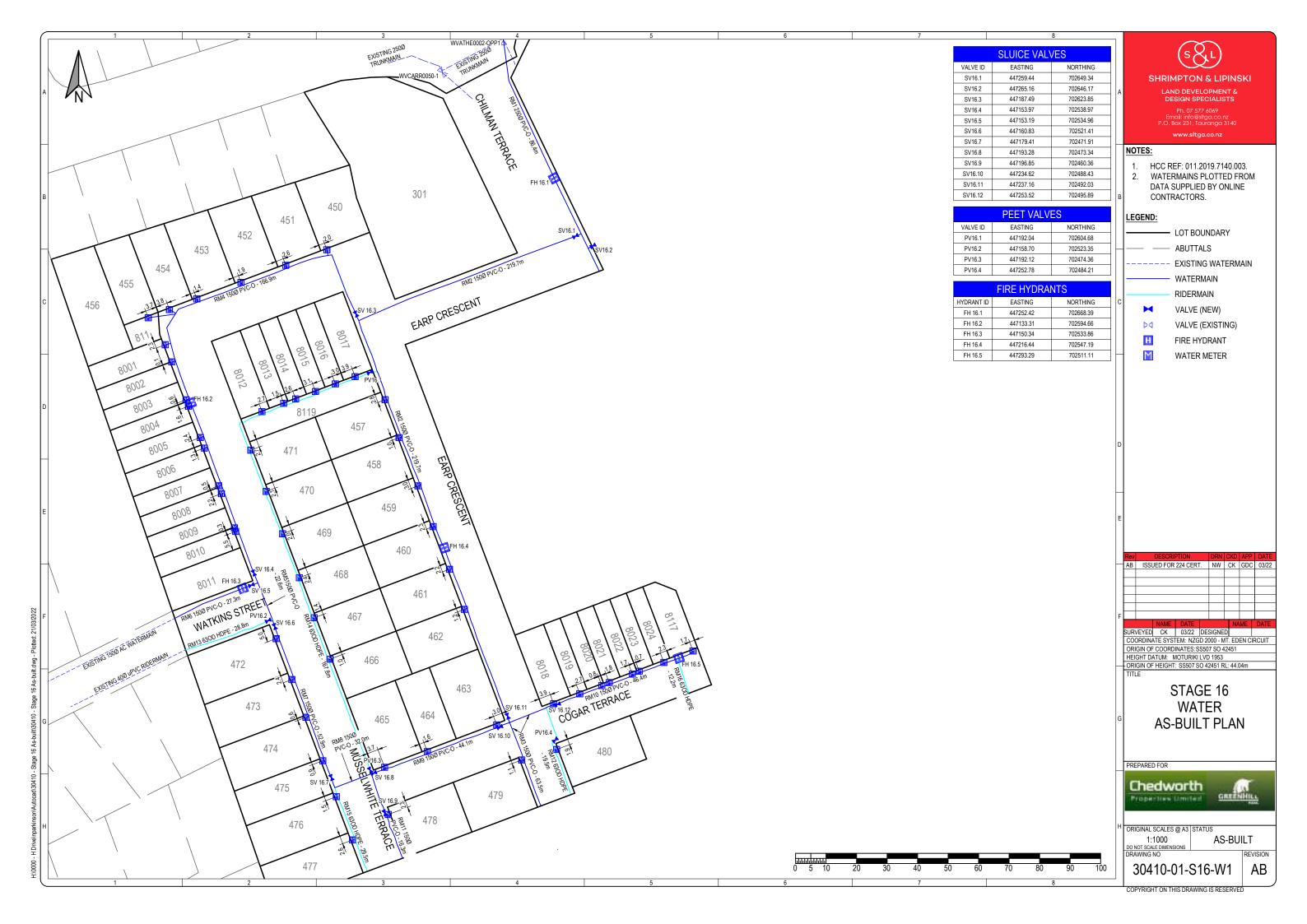
Version : August 2007

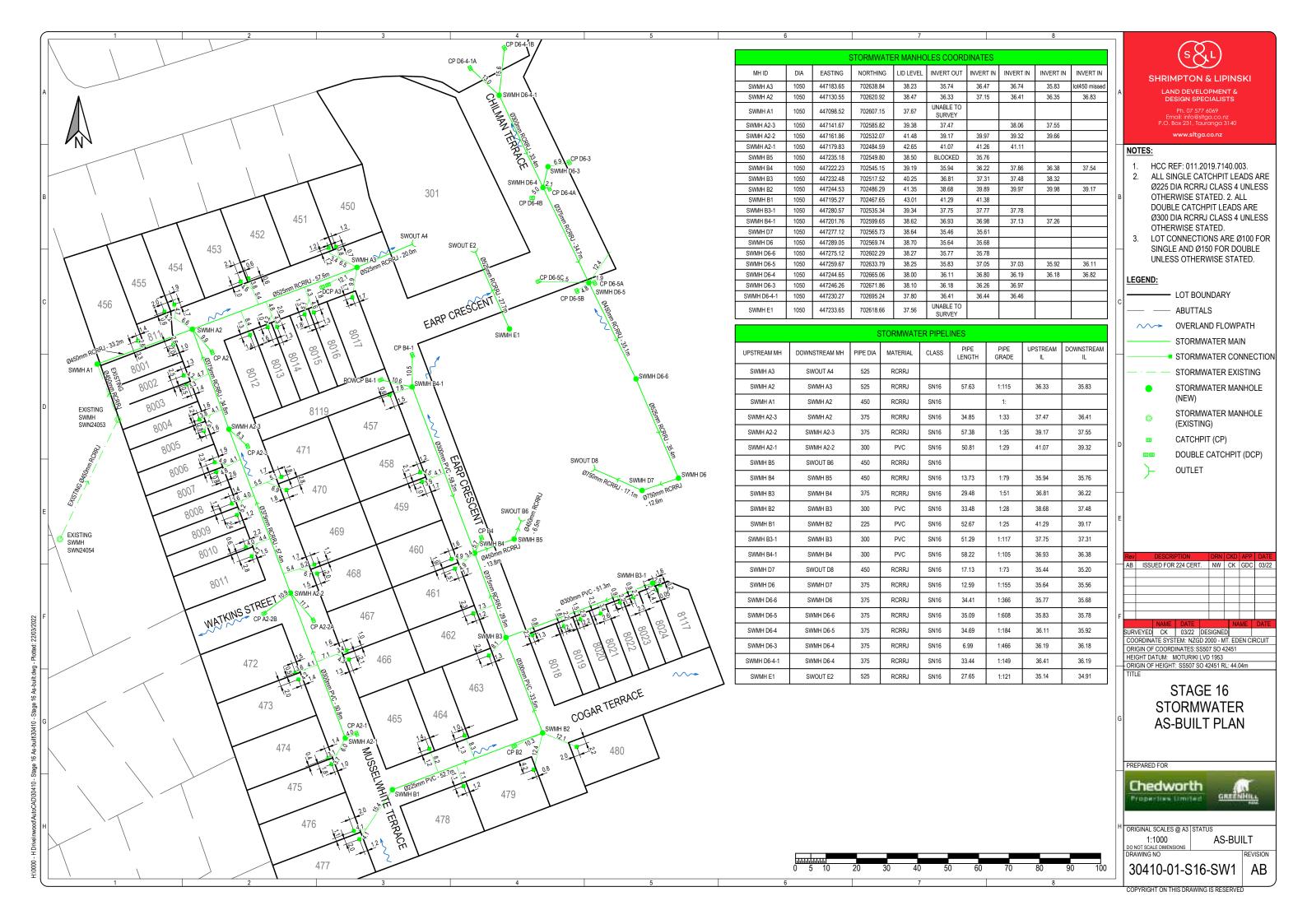
APPENDIX 9

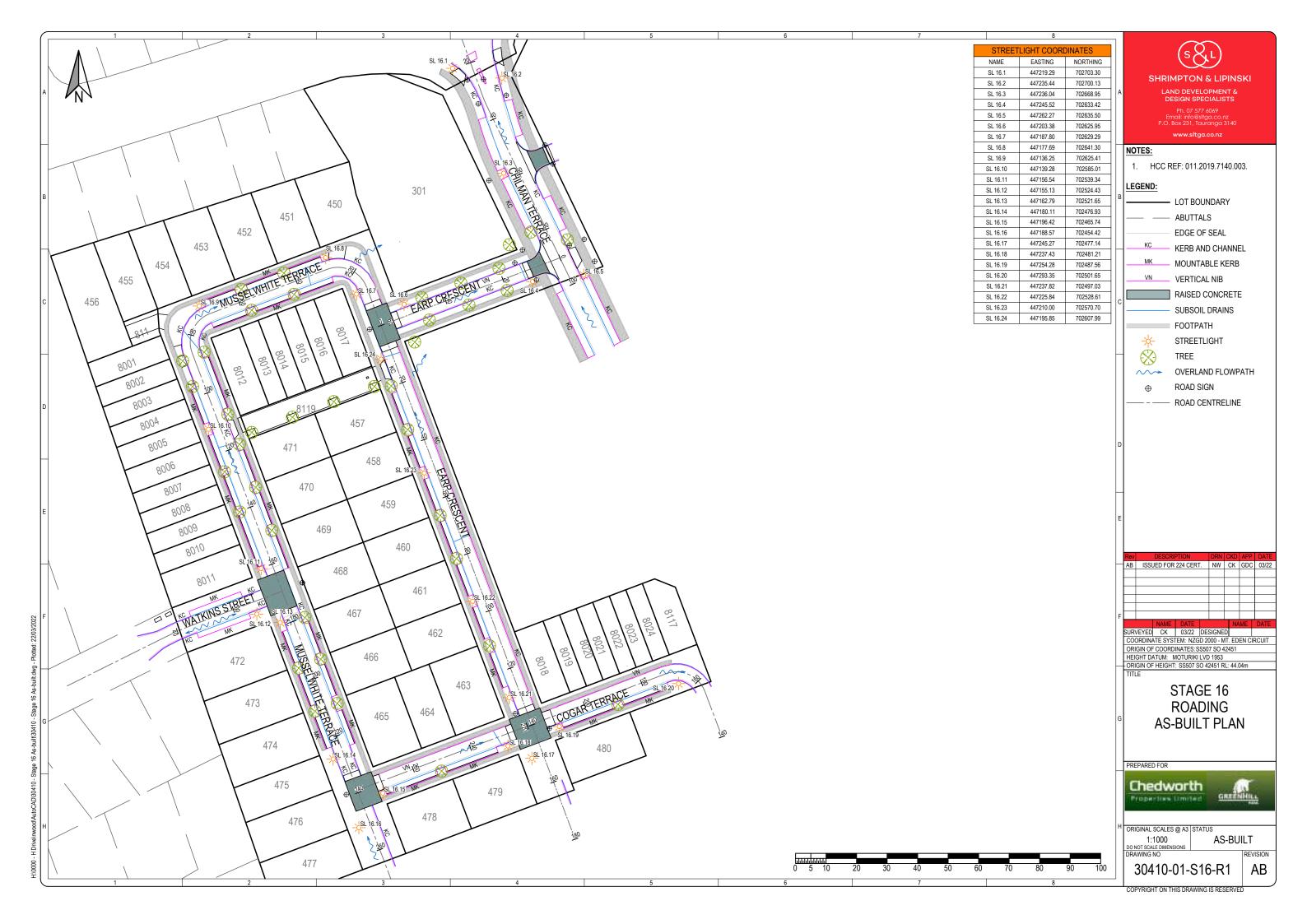
As Built Drawings

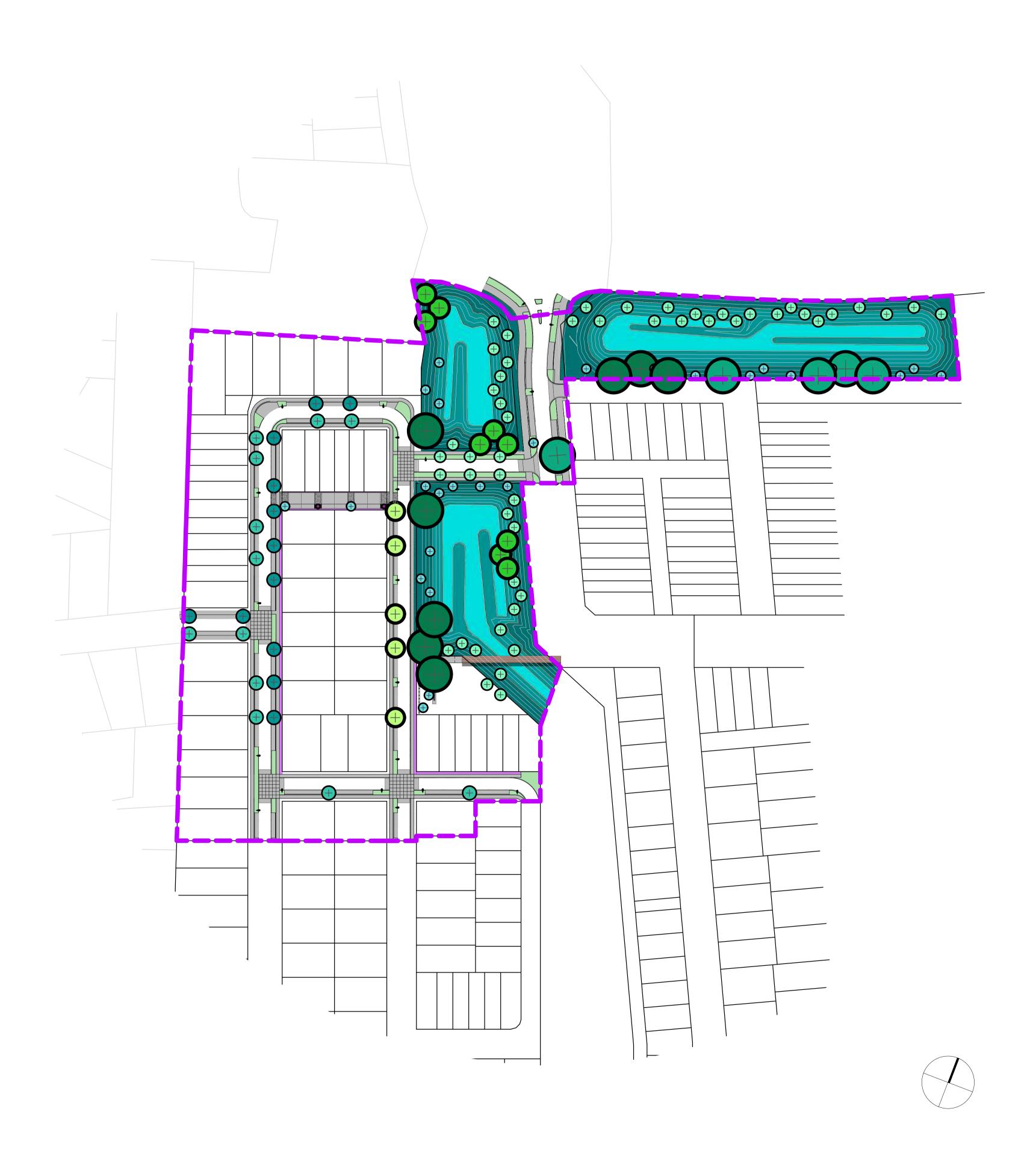
- 30410-01-S16-WW1 Rev AB Stage 16 Wastewater Asbuilt Plan
- 30410-01-S16-W1 Rev AB Stage 16 Water Reticulation Asbuilt
 Plan
- 30410-01-S16-SW1 Rev AB Stage 16 Stormwater Asbuilt Plan
- 30410-01-S16-R1 Rev AB Stage 16 Roading Asbuilt Plan
- BM191029_130, 200 & 201, 500 to 520 & 600 Landscape and planting As Built plans











Greenhill Park Area KL&U Stage 16

PROJECT NUMBER:	BM191029	AS BUILT	
PROJECT ADDRESS:	Carrs Road Chartwell Hamilton 3210		
CLIENT:	Chedworth Properties Limited		
CLIENT ADDRESS:	H.G Webb House 1110 Victoria Street (Corner of Victoria Street and Boundary Road) Hamilton 3200		
CONSULTANTS:	S&L Consultants IBEX Lighting		



Boffa Miskell Limited Level 3, SouthBloc 140 Anglesea Street Hamilton 3240 New Zealand Tel: +64 7 960 0006 www.boffamiskell.co.nz

EV	DATE	DESCRIPTION
	17.11.21	ISSUED FOR CONSTRUCTION
	09.02.22	ISSUED FOR CONSTRUCTION
	11.02.22	ISSUED FOR CONSTRUCTION
	17.03.22	AS BUILT

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100 Preliminary & General

100 Cover Sheet

130 Key Sheet

200 Plans

200 Sheet Locations

201 General Arrangement Sheet 01

500 Plans

500 Planting Schedule

501 Planting Plan General Arrangement

502 Planting Plan Sheet Locations

503 Planting Plan Sheet 01

504 Planting Plan Sheet 02

505 Planting Plan Sheet 03

506 Planting Plan Sheet 04

507 Planting Plan Sheet 05

508 Planting Plan Sheet 06

509 Planting Plan Sheet 07510 Planting Plan Sheet 08

511 Planting Plan Sheet 09

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513 Planting Plan Sheet 11

514 Planting Plan Sheet 12515 Planting Plan Sheet 13

516 Planting Plan Sheet 14

517 Planting Plan Sheet 15

518 Planting Plan Sheet 16

519 Planting Plan Sheet 17520 Planting Plan Sheet 18

600 Details

600 Details Sheet 01

GENERAL NOTES

All drawings shall be read in conjunction with the Landscape Specifications and other Consultant's Drawings and Specifications.

The Contractor is responsible for confirming the location of all underground services on site prior to commencing work.

Drawings shall not be scaled. Use dimensioned measurements only.

The Contractor shall verify all dimensions on site prior to commencing work.

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KEY NOTES

PAVING

THE FOLLOWING NOTES RELATE TO THE AESTHETIC QUALITIES AND FINISH OF THE MATERIAL ONLY. REFER CIVIL ENGINEERING DRAWINGS AND SPECIFICATIONS FOR ALL OTHER INFORMATION.

P01 PAVING TYPE 1

Dark-grey insitu concrete paving with a soft-bristled broom finish.
SPECIFICATION SECTION: 3124

JOINTS

REFER CIVIL ENGINEERING DRAWINGS AND SPECIFICATIONS FOR ALL CONSTRUCTION JOINTS, EXPANSION JOINTS, CONTROL JOINTS AND DECORATIVE SAW CUTS.

EDGING

THE FOLLOWING NOTES RELATE TO THE AESTHETIC QUALITIES AND FINISH OF THE MATERIAL ONLY. REFER CIVIL ENGINEERING DRAWINGS AND SPECIFICATIONS FOR ALL OTHER INFORMATION.

- E01 INSITU CONCRETE MOWING STRIP
 150mm wide dark-grey insitu concrete mowing strip with a soft-bristled broom finish.
 SPECIFICATION SECTION: 8410
- E02 INSITU CONCRETE MOWING STRIP
 200mm wide dark-grey insitu concrete mowing strip with a
 soft-bristled broom finish.
 SPECIFICATION SECTION: 8410
- E03 INSITU CONCRETE MOWING STRIP
 450mm wide dark-grey insitu concrete mowing strip with a
 soft-bristled broom finish.
 SPECIFICATION SECTION: 8410
- E04 INSITU CONCRETE MOWING STRIP

 1.5m wide dark-grey insitu concrete mowing strip with a soft-bristled broom finish.

 SPECIFICATION SECTION: 8410

KERBS

REFER CIVIL ENGINEERING DRAWINGS AND SPECIFICATIONS FOR ALL KERBS.

DRAINAGE

REFER CIVIL ENGINEERING DRAWINGS AND SPECIFICATIONS FOR ALL DRAINAGE.

STRUCTURES

REFER STRUCTURAL ENGINEERING DRAWINGS AND SPECIFICATIONS FOR ALL INFORMATION.

S01 BOARDWALK BRIDGE

FURNITURE

F01 SEAT
Santa & Cole Trapecio Seat.
SPECIFICATION SECTION: 8461

F02 LITTER BIN
Milford Bin.
SPECIFICATION SECTION: 8461

F03 BOLLARD
Timber bollard with black stain finish.
SPECIFICATION SECTION: 8461

F04 REMOVABLE LOCKABLE BOLLARD
Removable-lockable timber bollard with black stain finish.
SPECIFICATION SECTION: 8461

KEY

F05 WHEEL STOP
Wynyard Wheel Stop.
SPECIFICATION SECTION: 8461

VEGETATION

V01 PLANTING
Herbs, sedges and shrubs with mulch.
REFER DETAIL: 3/600
SPECIFICATION SECTION: 8310, 8321, 8332

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V02 GRASS
Seeded grass area.
REFER DETAIL: 4/600
SPECIFICATION SECTION: 8333

TREES

T01 STREET TREE PIT
REFER DETAIL: 1/600
SPECIFICATION SECTION: 8310, 8321, 8332

T02 RESERVE TREE PIT
A CAD Drawing (DWG/DXF Format) will be provided to the
Contractor for set out purposes.
REFER DETAIL: 2/600
SPECIFICATION SECTION: 8310, 8321, 8332

Boffa Miskell
Printed 17/03/2022 3:54:13 pm

NOTES

CONTRACTORS TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK;

CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING THE LOCATION OF ALL UNDERGROUND SERVICES ON SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

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- 17.11.21 ISSUED FOR CONSTRUCTION
1 17.03.22 AS BUILT



CONSULTANTS
S&L Consultants
IBEX Lighting

AS BUILT

GREENHILL PARK AREA KL&U STAGE 16

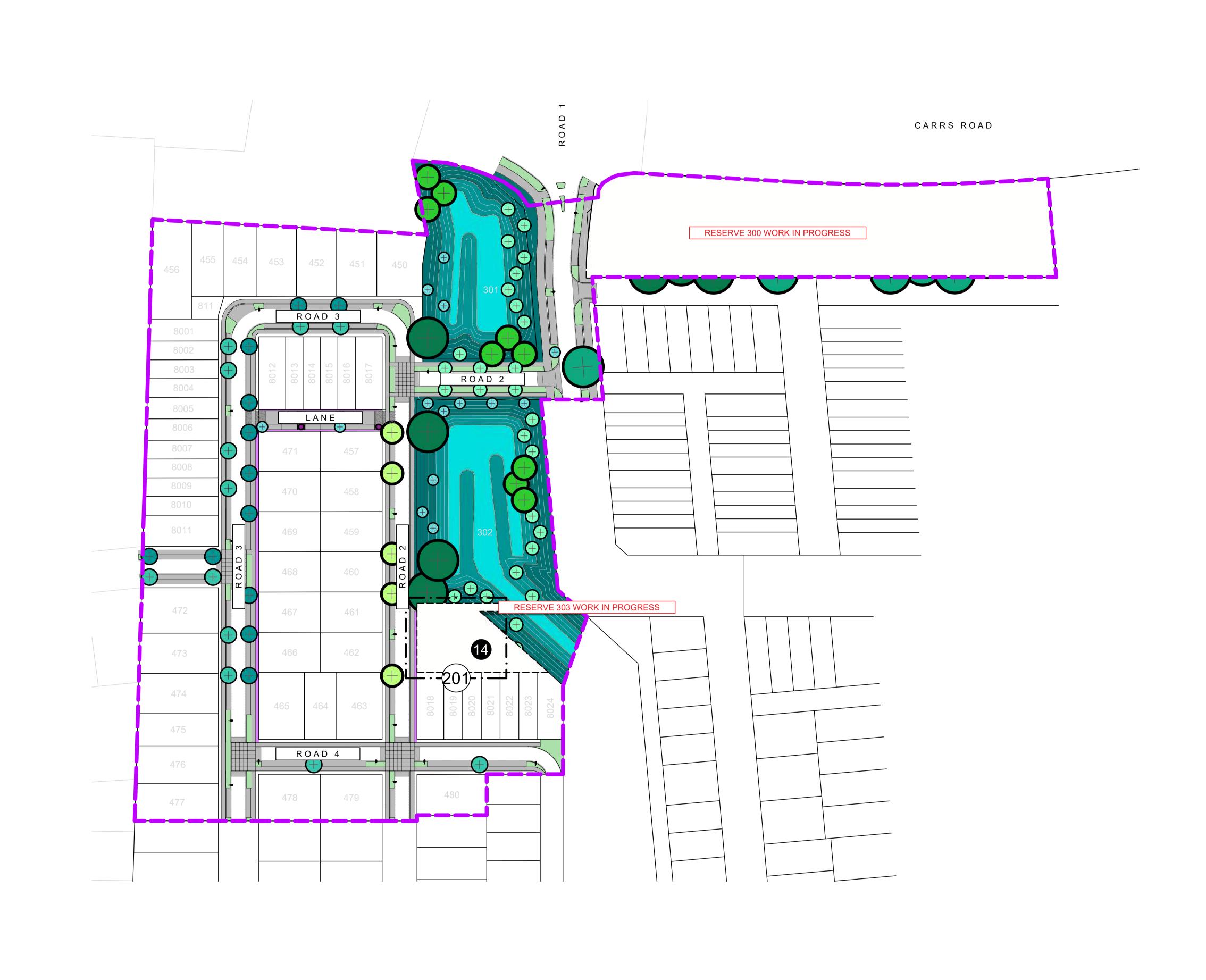
KEY SHEET

Design ARo Drawn ARo Check Appv'd DRAWING NO.

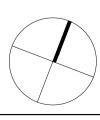
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KEY

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PLANTING LAWN

REV DATE DESCRIPTION

17.11.21 ISSUED FOR CONSTRUCTION
09.02.22 ANNOTATION ADDED FOR PARK NUMBER 14 2 11.02.22 REVISIONS TO ACCESS LANE LOT 8119 3 17.03.22 AS BUILT

Chedworth Properties Ltd CONSULTANTS S&L Consultants

IBEX Lighting

AS BUILT

GREENHILL PARK AREA KL&U STAGE 16

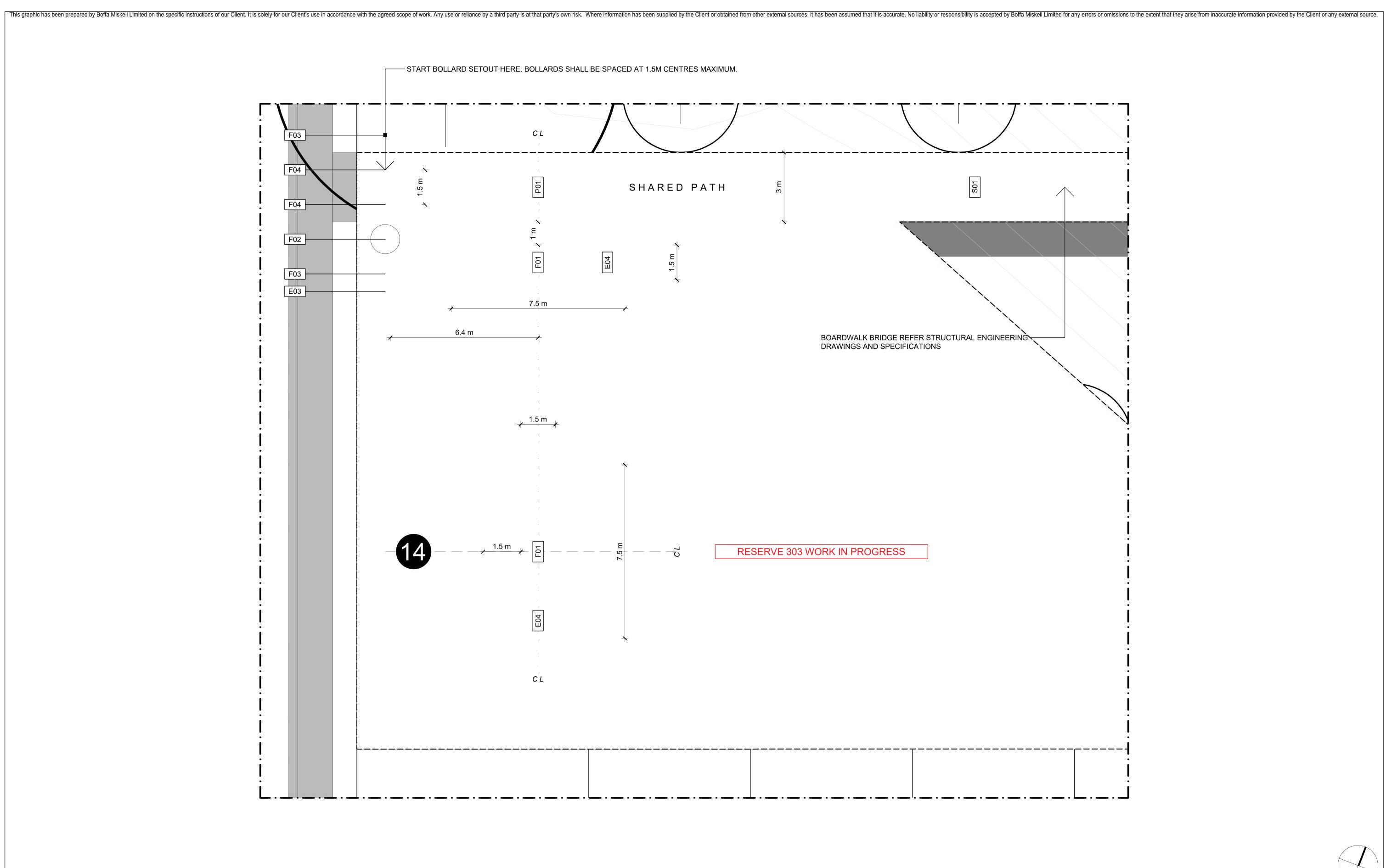
SHEET LOCATIONS

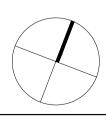
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1:750 @ A1 17.11.21 1:1,500 @ A3

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FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY

REFER TO DRAWING NUMBER BM191029_130 KEY SHEET

14 PARK 14

---- CONCRETE CONTROL JOINTS LAWN

REV DATE DESCRIPTION

17.11.21 ISSUED FOR CONSTRUCTION
09.02.22 ANNOTATION ADDED FOR PARK NUMBER 14 2 17.03.22 AS BUILT

Chedworth Properties Ltd CONSULTANTS S&L Consultants IBEX Lighting **AS BUILT**

GREENHILL PARK AREA KL&U STAGE 16

GENERAL ARRANGEMENT SHEET 01 OF 01

Design ARo 1:125 @ A1 Drawn ARo 17.11.21 1:250 @ A3 Check DRAWING NO.

BM191029 201

Planting Schedule					Т	
Collector Street						
Botanical Name	Common Name	Evergreen	Deciduous	Size	Centres (m)	Quantity
Specimen Trees						
Fagus sylvatica Knightia excelsa	European beech rewarewa	•	•	100-180L 100-180L	As shown As shown	1
Berm Planting						
Carex testacea	orange sedge			1L	0.5	371
Hebe Win Msl'	koromiko, hebe culfivar	•		1L	0.75	8
Planting Area Mulch						270m² 27m²
Local Street						
Local Street						
Botanical Name	Common Name	Evergreen	Decidoous	Size	Centres (m)	Quantity
Specimen Trees						
Acer rub rum	American red maple		•	10 0 -180L	As shown	5
Sophora microphylla	kōwhai	•		100-180L	As shown	Q
Berm Plenting						
Carex testacea	orange sedge	•		1L	0.5	331
Hebe Wiri Ms!"	koromiko, hebe cultiyar	•		1L	9.75	118
Libertia ixioides	lurutu, New Zealand ins	•		11.	0.4	133
Planting Area						350m²
Moleh						35m²
Neighbourhood Street						
Botanical Name	Common Name	Evergreen	Deciduous	Şize	Centres (m)	Quantity
Specimen Trees						
Alectryon excelsus	Iltoki	 		10 0- 180L	As shown	12
Pyrus calleryana 'Anslocrat'	ornamental pear		•	10 0 -180L	As shown	12
Berm Planting						
Carex testacea	orange sedge			1L	0.5	471
Hebe Wiri Mst	koromiko, hebe cultivar	•		1L	0.75	71
Libertia ixioides	turutu. New Zealand ins	•		1L	0.4	186
Pseudowintera 'Cherry Ripe'	flax cultivar	•		11.	0.5	112
Planting Area						520m²
Molch						52m²
Lane						
Botanical Name	Common Name	Evergreen	Deciduous	Size	Centres (m)	Quantity
Specimen Trees						
Knightia excelsa	rewarewa			100-180L	As shown	2
Magnolia soulangeana x Itliffora 'Genie'	magnolia cultivar		•	10 0 -180L	As shown	2
Berm Planting						
Carex lestacea	orange sedge			1L	0.5	32
Planting Area						20m²
Mulch						2m ³

Reserve						
Recreation and Stormwater						
Botanical Name	Common Name	Evergreen	Deciduous	Size	Centres (m)	Quanti
Specimen Trees						
Fagus sylvatica	European beech		•	100-180L	As shown	
Knightia excelsa	лематем а	•		10 0 -180L	As shown	í
Podocarpus totara	15tara	•		100-180L	As shown	
Quercus robur	English oak		•	100-180L	As shown	
Sophora microphylla	kōwhai	•		10 0- 180L	As shown	4
Upper Bank Planting Soft-fine Leaved Grasses						
Carex dipsacea	leasel sedge	-		0.5L	0.5	1112
Carex dissita	forest sedge	-		0.5L	0.5	83-
Carex virgata	pukio/swamp sedge	•		0.5Ł	0.75	370
Planting Area						6.0206
Lower Bank Planting						
Bolboschoenus fluviatilis	kukuraho	-		0.5L	0.76	8
Carex geminata	cutty grass	•		0.5L	0.75	178
Carex lessoniana	rautahi	•		0.52	0.75	17:
Carex secta	pur a i/makura		1	0.52	0.76	8
Carex virgata	pukio			0.51	0.75	8
Cordyline australis	cabbage free			0.52	1	45
Cyperus ustulatus	giant umbrella sedge	1		0.5L	0.5	193
Eleocharis acuta	spike rush			0.5L	0.5	394
Juncus edgariae	wiwi	•		0.5L	0.5	394
Juncus pallidus	giant rush wiw	1		0 5L	9.75	26.
Machaerina articulata	jointed twig-rush	•		0.5L	0.75	178
Machaenna rubiginosa	orange nut sedge	•		0.5L	0.5	394
Planting Area						8.550r
Plant species are indicative only based on assum	uad epil mojetura lavale. Sr	sacias to be ravis	ewed following (finalisation of or	rougehuster levels	s and design



NOTES

PRIOR TO COMMENCING WORK;

SITE PRIOR TO COMMENCING WORK;

CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING THE LOCATION OF ALL UNDERGROUND SERVICES ON

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY

CONTRACTORS TO VERIFY ALL DIMENSIONS ON SITE REFER TO DRAWING NUMBER BM191029_130 KEY SHEET

REV DATE DESCRIPTION

2 17.03.22 AS BUILT

_ 17.11.21 ISSUED FOR CONSTRUCTION
1 11.02.22 REVISIONS TO ACCESS LANE LOT 8119

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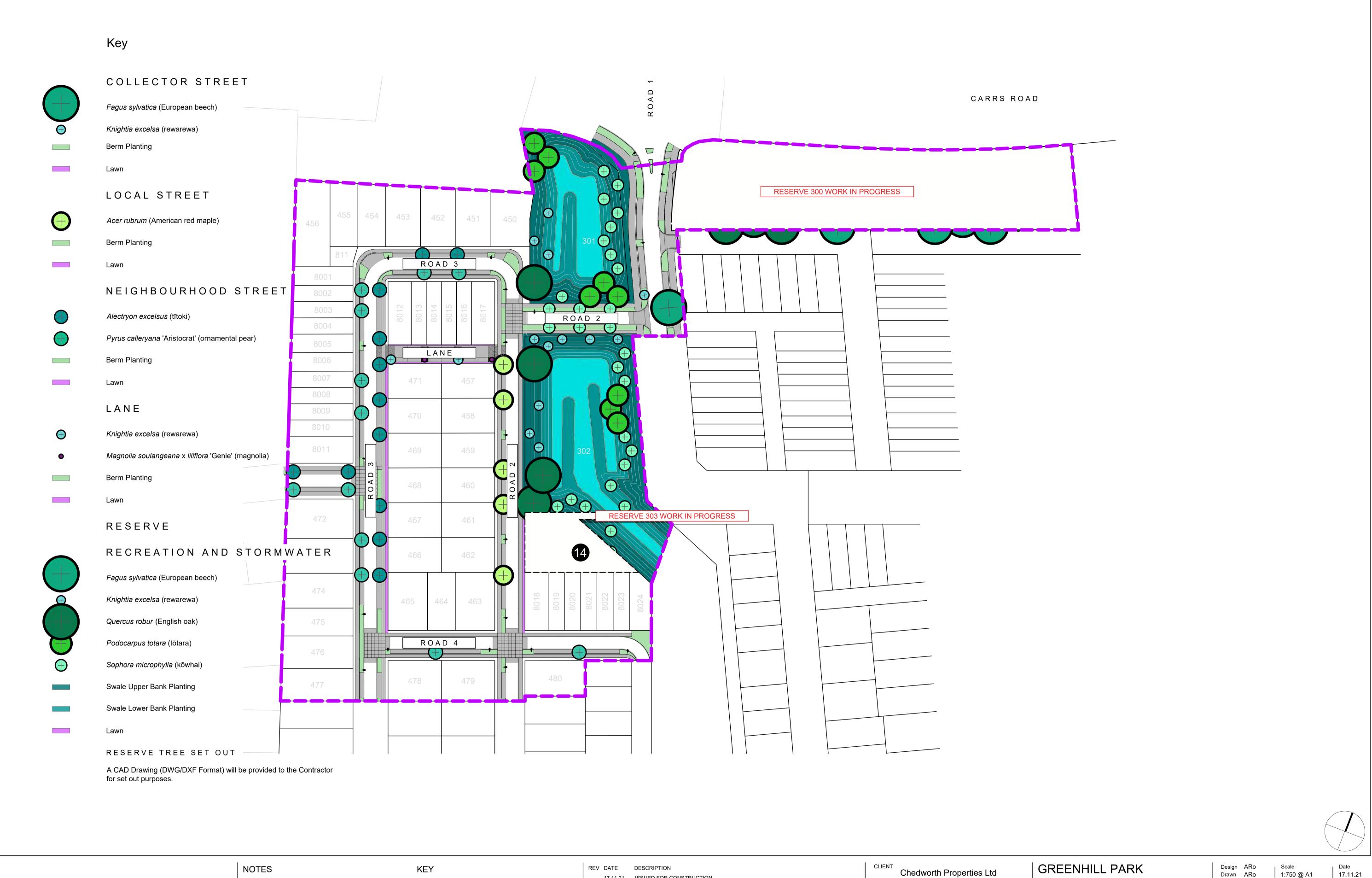
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GREENHILL PARK AREA KL&U STAGE 16

PLANTING SCHEDULE

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TO SCALED DIMENSIONS.

CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING
THE LOCATION OF ALL UNDERGROUND SERVICES ON
SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE

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STAGE 16

17.11.21 ISSUED FOR CONSTRUCTION
1 09.02.22 ANNOTATION ADDED FOR PARK NUMBER 14
2 11.02.22 REVISIONS TO ACCESS LANE LOT 8119
3 17.03.22 AS BUILT

Chedworth Properties Ltd

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IBEX Lighting

AS BUILT

AREA KL&U STAGE 16

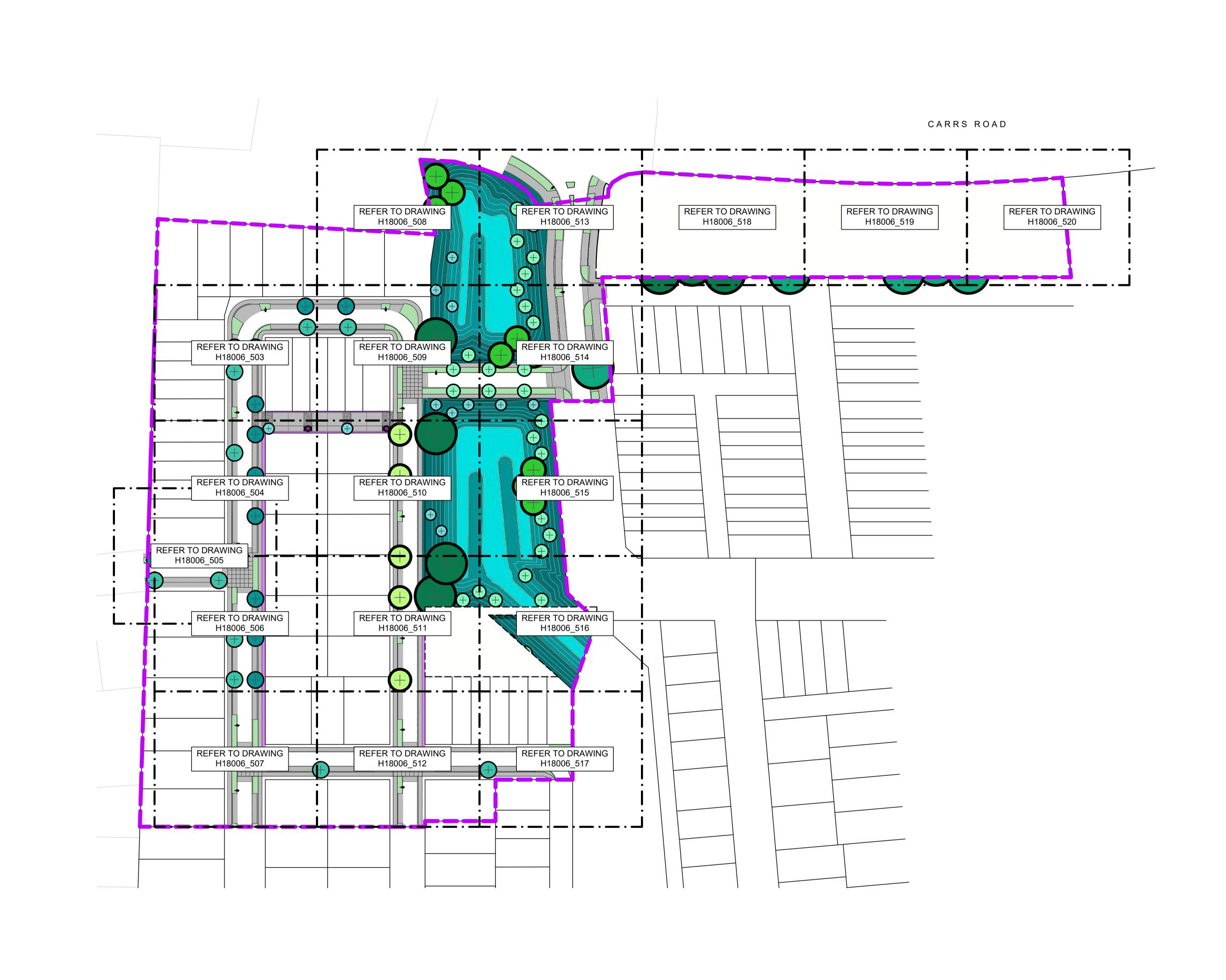
PLANTING PLAN
GENERAL ARRANGEMENT

 Design ARo
 Scale
 Date

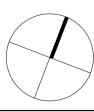
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 17.11.21

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 1:1,500 @ A3
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BM191029_501 (3



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17.11.21

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CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING
THE LOCATION OF ALL UNDERGROUND SERVICES ON
SITE PRIOR TO COMMENCING WORK;

DIANTING

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY
REFER TO DRAWING NUMBER BM191029_130 KEY

LAWN

SHEET - STAGE 16
PLANTING

REV DATE DESCRIPTION
17.11.21 ISSUED FOR C

17.11.21 ISSUED FOR CONSTRUCTION
 11.02.22 REVISIONS TO ACCESS LANE LOT 8119
 17.03.22 AS BUILT

Chedworth Properties Ltd

CONSULTANTS
S&L Consultants
IBEX Lighting

AS BUILT

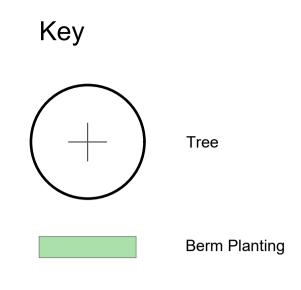
GREENHILL PARK AREA KL&U STAGE 16

PLANTING PLAN SHEET LOCATIONS

Design ARo
Drawn ARo
Check
Appv'd

DRAWING NO.

BM191029_502



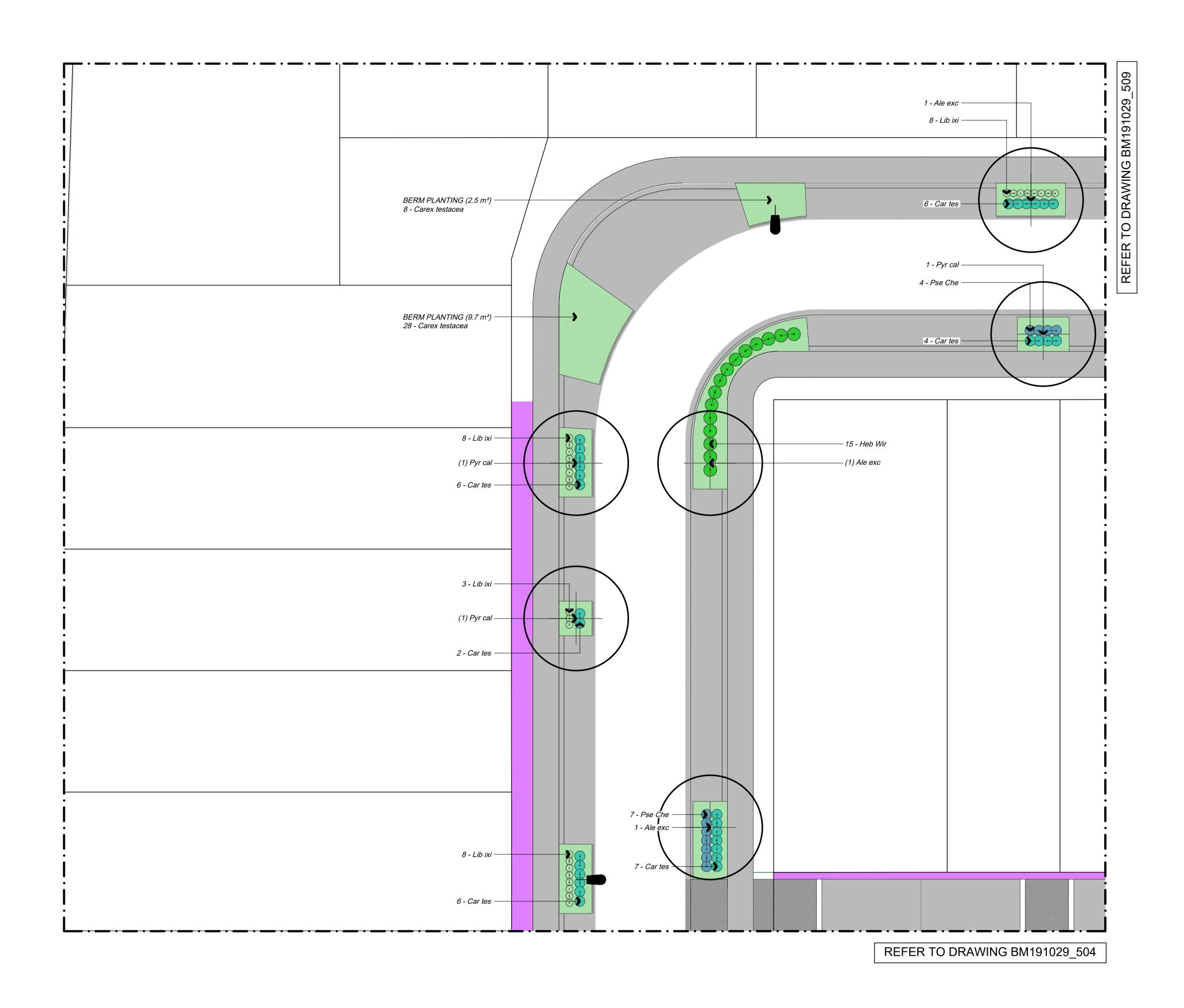
Lawn

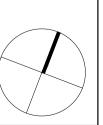
Set Out

All plant pits shall be setback 600mm minimum from the edge of all kerbs, nibs and footpaths.

Reserve Tree Set Out

A CAD Drawing (DWG/DXF Format) will be provided to the Contractor for set out purposes.





REVISION



NOTES

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CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING
THE LOCATION OF ALL UNDERGROUND SERVICES ON
STAGE 16 SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY REFER TO DRAWING NUMBER BM191029_130 KEY

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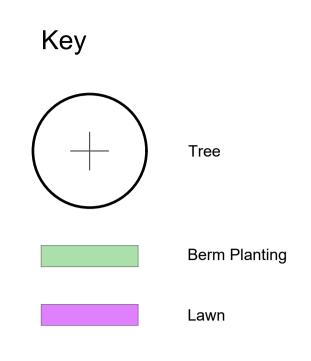
Chedworth Properties Ltd CONSULTANTS S&L Consultants IBEX Lighting PLANTING PLAN SHEET 01 OF 18 **AS BUILT**

GREENHILL PARK AREA KL&U STAGE 16

Drawn ARo Check DRAWING NO. 1:125 @ A1 17.11.21 1:250 @ A3

BM191029_503

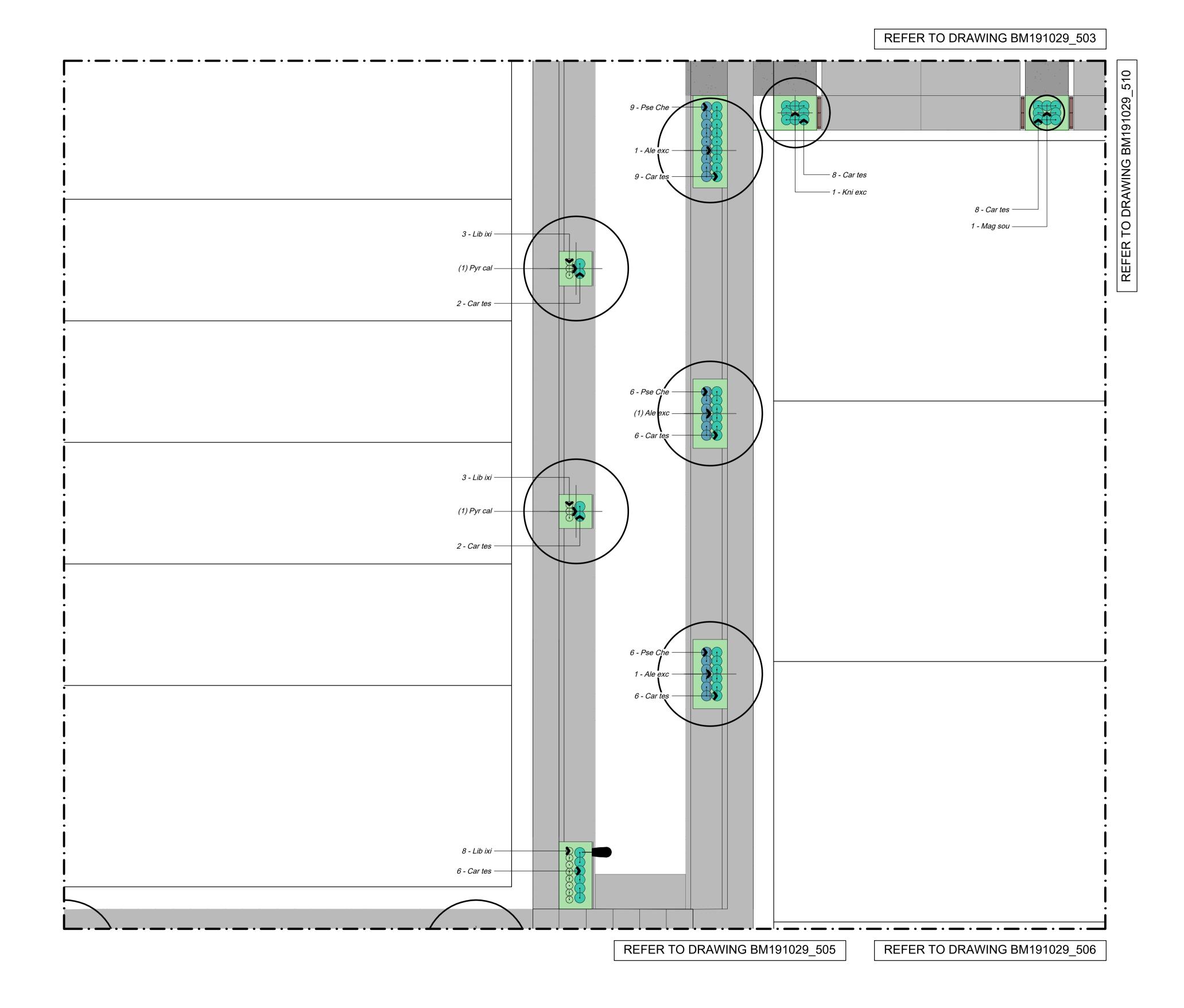
Design ARo

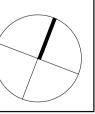


All plant pits shall be setback 600mm minimum from the edge of all kerbs, nibs and footpaths.

Reserve Tree Set Out

A CAD Drawing (DWG/DXF Format) will be provided to the Contractor for set out purposes.





REVISION



NOTES

CONTRACTORS TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK;

CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING
THE LOCATION OF ALL UNDERGROUND SERVICES ON
STAGE 16 SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY REFER TO DRAWING NUMBER BM191029_130 KEY

2 17.03.22 AS BUILT

REV DATE DESCRIPTION 17.11.21 ISSUED FOR CONSTRUCTION
11.02.22 REVISIONS TO ACCESS LANE LOT 8119

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GREENHILL PARK AREA KL&U STAGE 16

1:125 @ A1 17.11.21 1:250 @ A3

BM191029_504

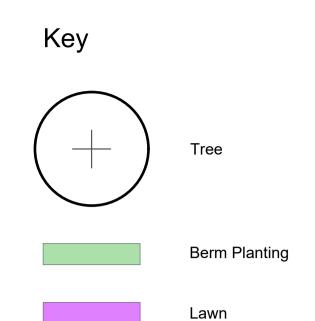
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Design ARo

Drawn ARo

DRAWING NO.

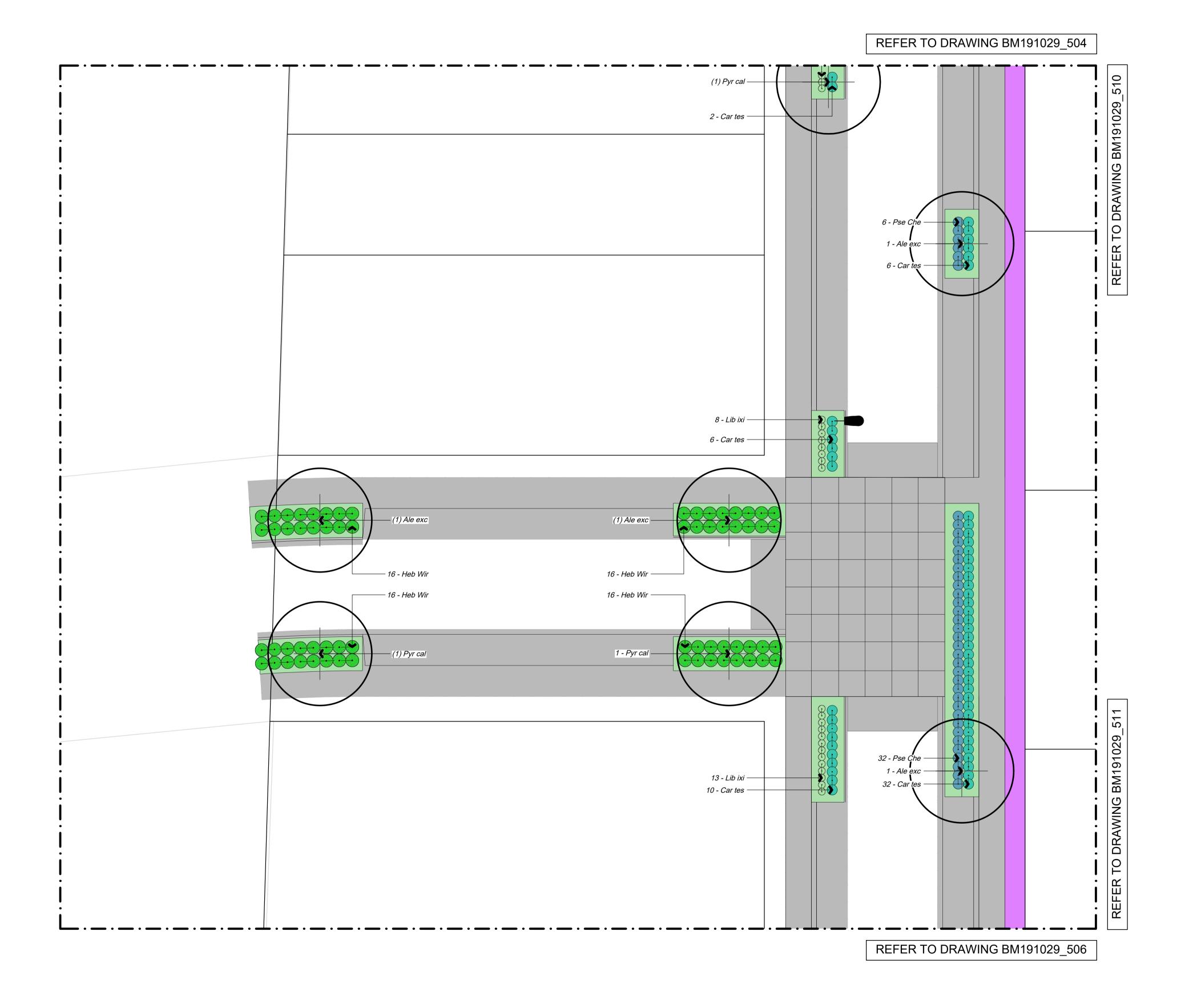
Check

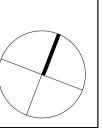


All plant pits shall be setback 600mm minimum from the edge of all kerbs, nibs and footpaths.

Reserve Tree Set Out

A CAD Drawing (DWG/DXF Format) will be provided to the Contractor for set out purposes.







NOTES

CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING
THE LOCATION OF ALL UNDERGROUND SERVICES ON

STAGE 16 SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY

CONTRACTORS TO VERIFY ALL DIMENSIONS ON SITE REFER TO DRAWING NUMBER BM191029_130 KEY PRIOR TO COMMENCING WORK; SHEET

REV DATE DESCRIPTION 17.11.21 ISSUED FOR CONSTRUCTION
 17.03.22 AS BUILT

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Chedworth Properties Ltd CONSULTANTS S&L Consultants **IBEX** Lighting **AS BUILT**

GREENHILL PARK AREA KL&U STAGE 16

PLANTING PLAN

SHEET 03 OF 18

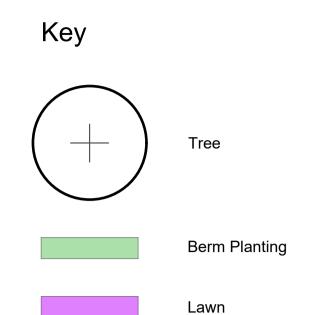
1:125 @ A1

Drawn ARo 17.11.21 1:250 @ A3 DRAWING NO. REVISION

BM191029_505

Design ARo

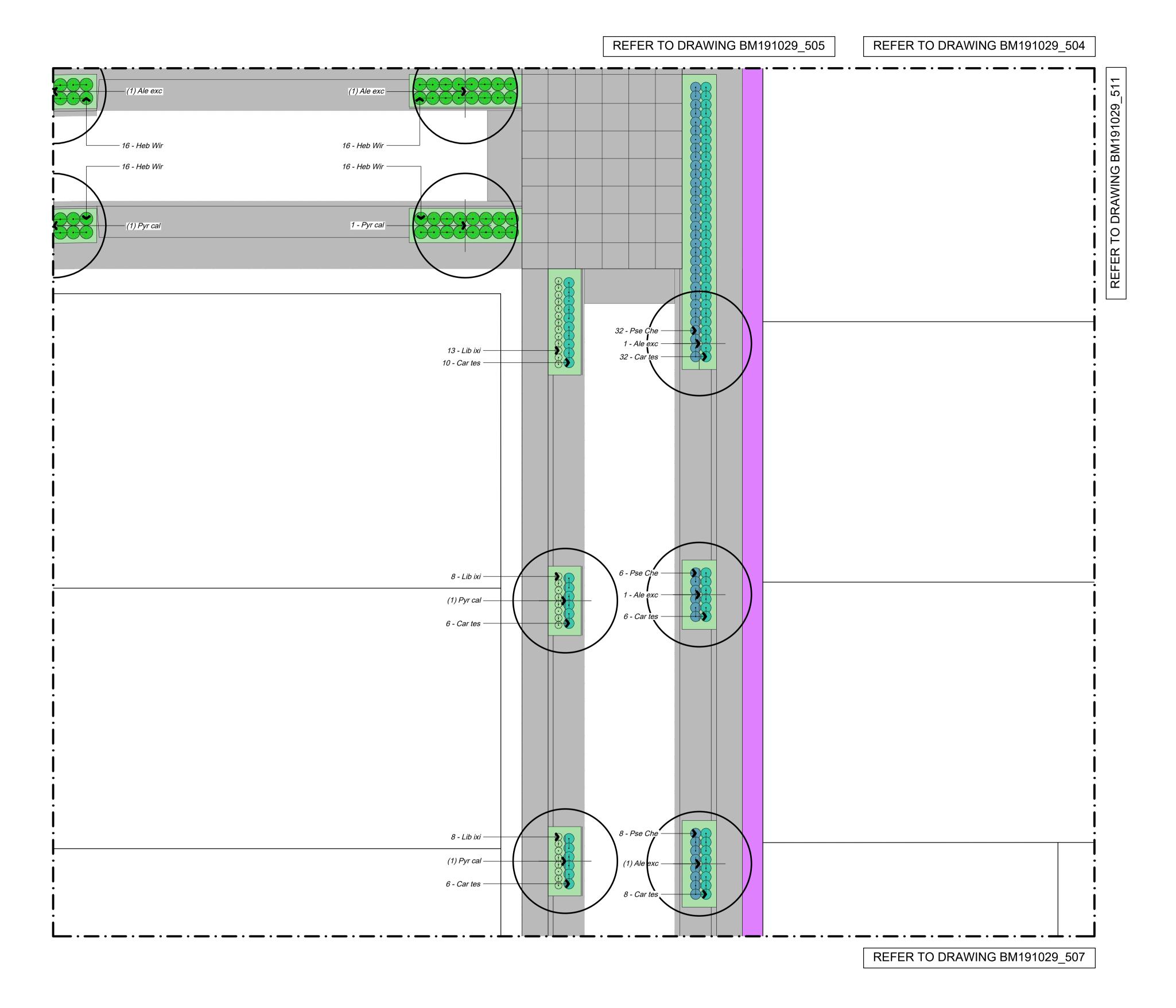
Check

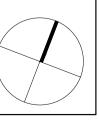


All plant pits shall be setback 600mm minimum from the edge of all kerbs, nibs and footpaths.

Reserve Tree Set Out

A CAD Drawing (DWG/DXF Format) will be provided to the Contractor for set out purposes.





17.11.21

REVISION



NOTES

CONTRACTORS TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK;

CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING
THE LOCATION OF ALL UNDERGROUND SERVICES ON
STAGE 16 SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY REFER TO DRAWING NUMBER BM191029_130 KEY SHEET

REV DATE DESCRIPTION 17.11.21 ISSUED FOR CONSTRUCTION
 17.03.22 AS BUILT

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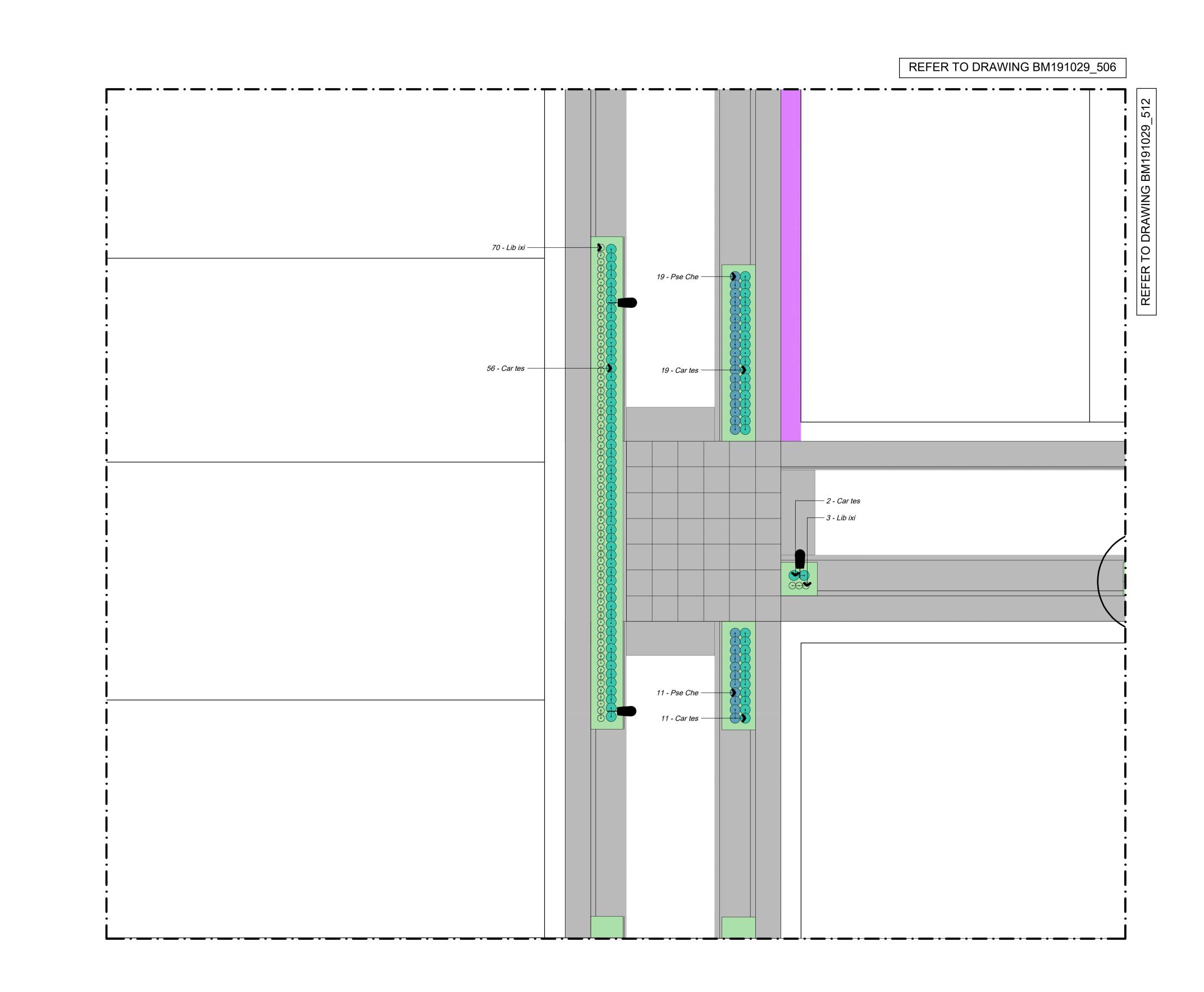
Chedworth Properties Ltd CONSULTANTS S&L Consultants **IBEX** Lighting **AS BUILT**

GREENHILL PARK AREA KL&U STAGE 16

PLANTING PLAN SHEET 04 OF 18

Design ARo 1:125 @ A1 Drawn ARo Check 1:250 @ A3 DRAWING NO.

BM191029_506



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Printed 17/03/2022 3:55:06 pm

Set Out

kerbs, nibs and footpaths.

Reserve Tree Set Out

for set out purposes.

All plant pits shall be setback 600mm minimum from the edge of all

A CAD Drawing (DWG/DXF Format) will be provided to the Contractor

Key

Berm Planting

Lawn

NOTES

CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING
THE LOCATION OF ALL UNDERGROUND SERVICES ON
STAGE 16

REV DATE DESCRIPTION 17.11.21 ISSUED FOR CONSTRUCTION
 17.03.22 AS BUILT

Chedworth Properties Ltd CONSULTANTS S&L Consultants IBEX Lighting

AS BUILT

GREENHILL PARK AREA KL&U STAGE 16

PLANTING PLAN

Design ARo Drawn ARo Check DRAWING NO. 1:125 @ A1

17.11.21 1:250 @ A3 REVISION

BM191029_507

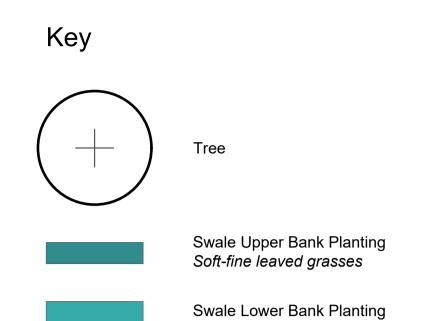
SHEET 05 OF 18 U:\2019\BM191029_ARo_Greenhill_Park_Area_K_&_L_Detailed_Design\CAD\As_Built_Drawings\Stage_16\BM191029_as_built_stage_16.dwg

CONTRACTORS TO VERIFY ALL DIMENSIONS ON SITE REFER TO DRAWING NUMBER BM191029_130 KEY PRIOR TO COMMENCING WORK; SHEET

SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

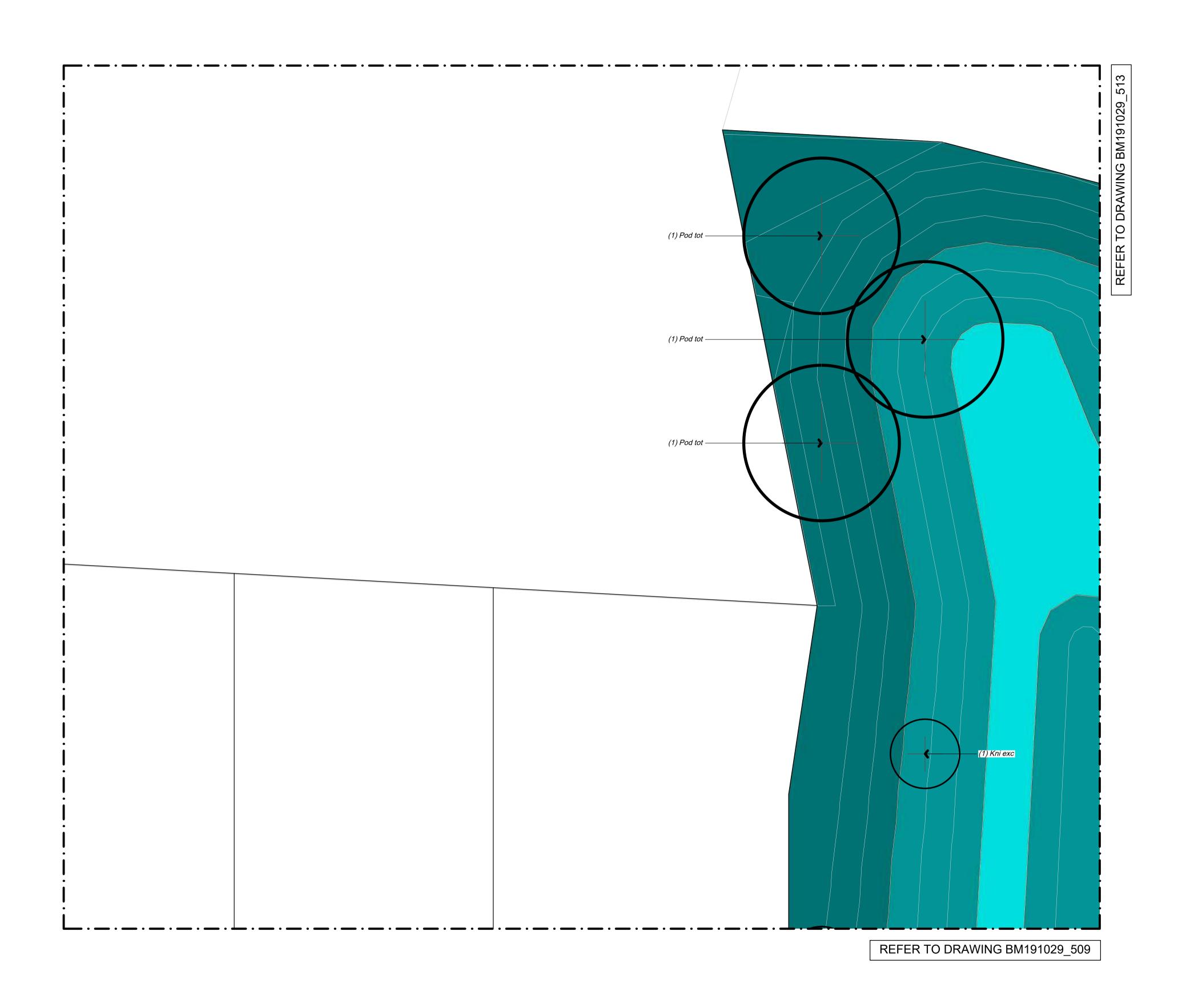
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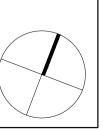


All plant pits shall be setback 600mm minimum from the edge of all kerbs, nibs and footpaths.

Reserve Tree Set Out

A CAD Drawing (DWG/DXF Format) will be provided to the Contractor for set out purposes.





REVISION



NOTES

CONTRACTORS TO VERIFY ALL DIMENSIONS ON SITE

SITE PRIOR TO COMMENCING WORK;

PRIOR TO COMMENCING WORK; CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING
THE LOCATION OF ALL UNDERGROUND SERVICES ON
STAGE 16

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

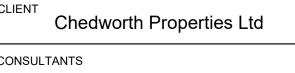
KEY

REFER TO DRAWING NUMBER BM191029_130 KEY SHEET

REV DATE DESCRIPTION

17.11.21 ISSUED FOR CONSTRUCTION
 17.03.22 AS BUILT

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CONSULTANTS S&L Consultants IBEX Lighting

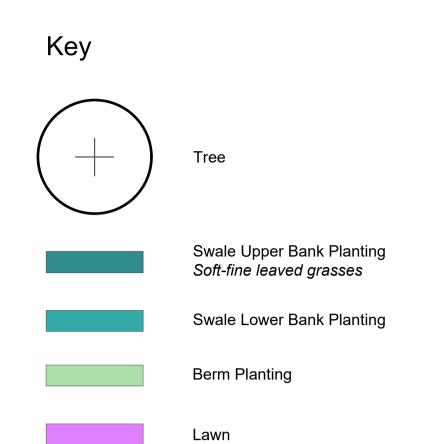
SHEET 06 OF 18

GREENHILL PARK AREA KL&U STAGE 16

PLANTING PLAN

Design ARo Drawn ARo Check DRAWING NO. 1:125 @ A1 17.11.21 1:250 @ A3

BM191029_508

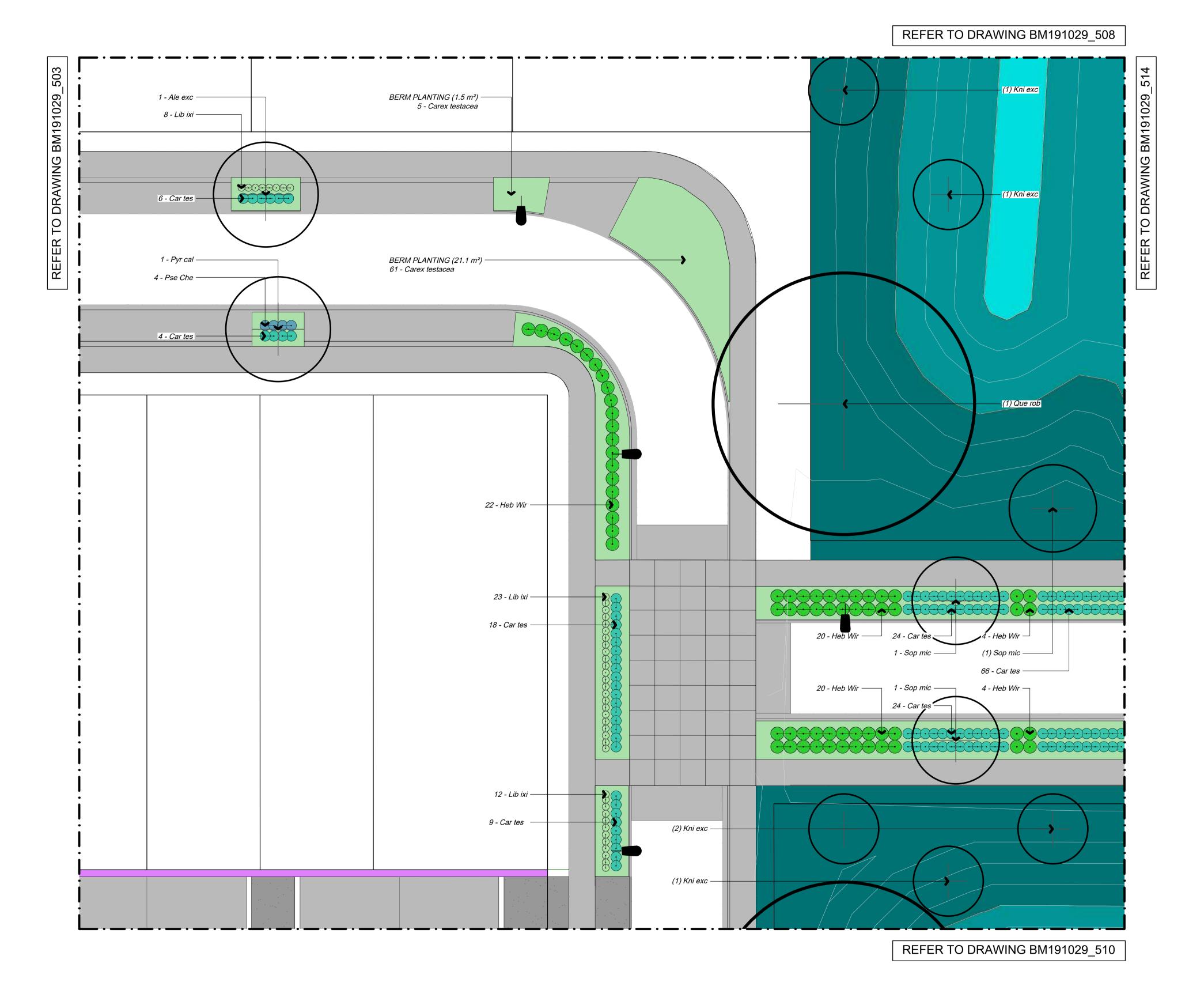


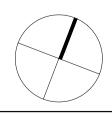
Set Out

All plant pits shall be setback 600mm minimum from the edge of all kerbs, nibs and footpaths.

Reserve Tree Set Out

A CAD Drawing (DWG/DXF Format) will be provided to the Contractor for set out purposes.







NOTES

CONTRACTORS TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK;

CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING
THE LOCATION OF ALL UNDERGROUND SERVICES ON
STAGE 16 SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

REFER TO DRAWING NUMBER BM191029_130 KEY

KEY

2 17.03.22 AS BUILT

REV DATE DESCRIPTION 17.11.21 ISSUED FOR CONSTRUCTION
11.02.22 REVISIONS TO ACCESS LANE LOT 8119

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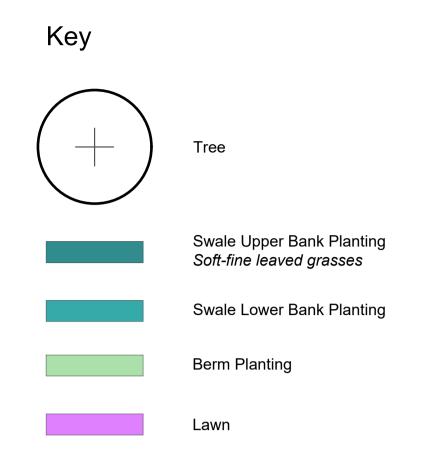
Chedworth Properties Ltd CONSULTANTS S&L Consultants IBEX Lighting SHEET 07 OF 18 **AS BUILT**

GREENHILL PARK AREA KL&U STAGE 16 PLANTING PLAN

Design ARo Drawn ARo Check DRAWING NO.

1:125 @ A1 17.11.21 1:250 @ A3 REVISION

BM191029_509

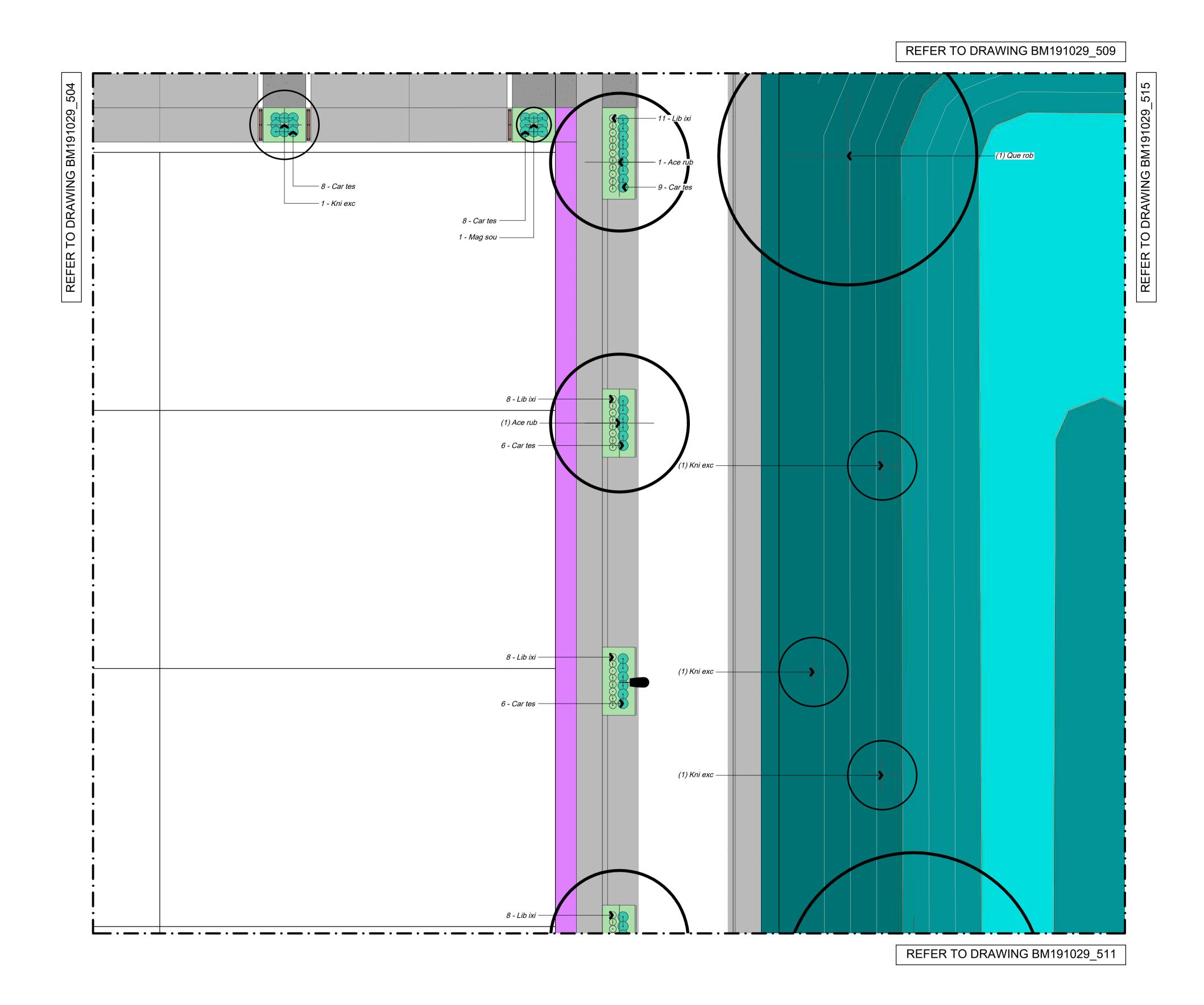


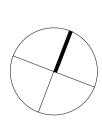
Set Out

All plant pits shall be setback 600mm minimum from the edge of all kerbs, nibs and footpaths.

Reserve Tree Set Out

A CAD Drawing (DWG/DXF Format) will be provided to the Contractor for set out purposes.







NOTES

CONTRACTORS TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK;

CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING
THE LOCATION OF ALL UNDERGROUND SERVICES ON
STAGE 16 SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.



REFER TO DRAWING NUMBER BM191029_130 KEY

REV DATE DESCRIPTION

17.11.21 ISSUED FOR CONSTRUCTION 11.02.22 REVISIONS TO ACCESS LANE LOT 8119 2 17.03.22 AS BUILT

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Chedworth Properties Ltd CONSULTANTS S&L Consultants **IBEX Lighting** AS BUILT

GREENHILL PARK AREA KL&U STAGE 16

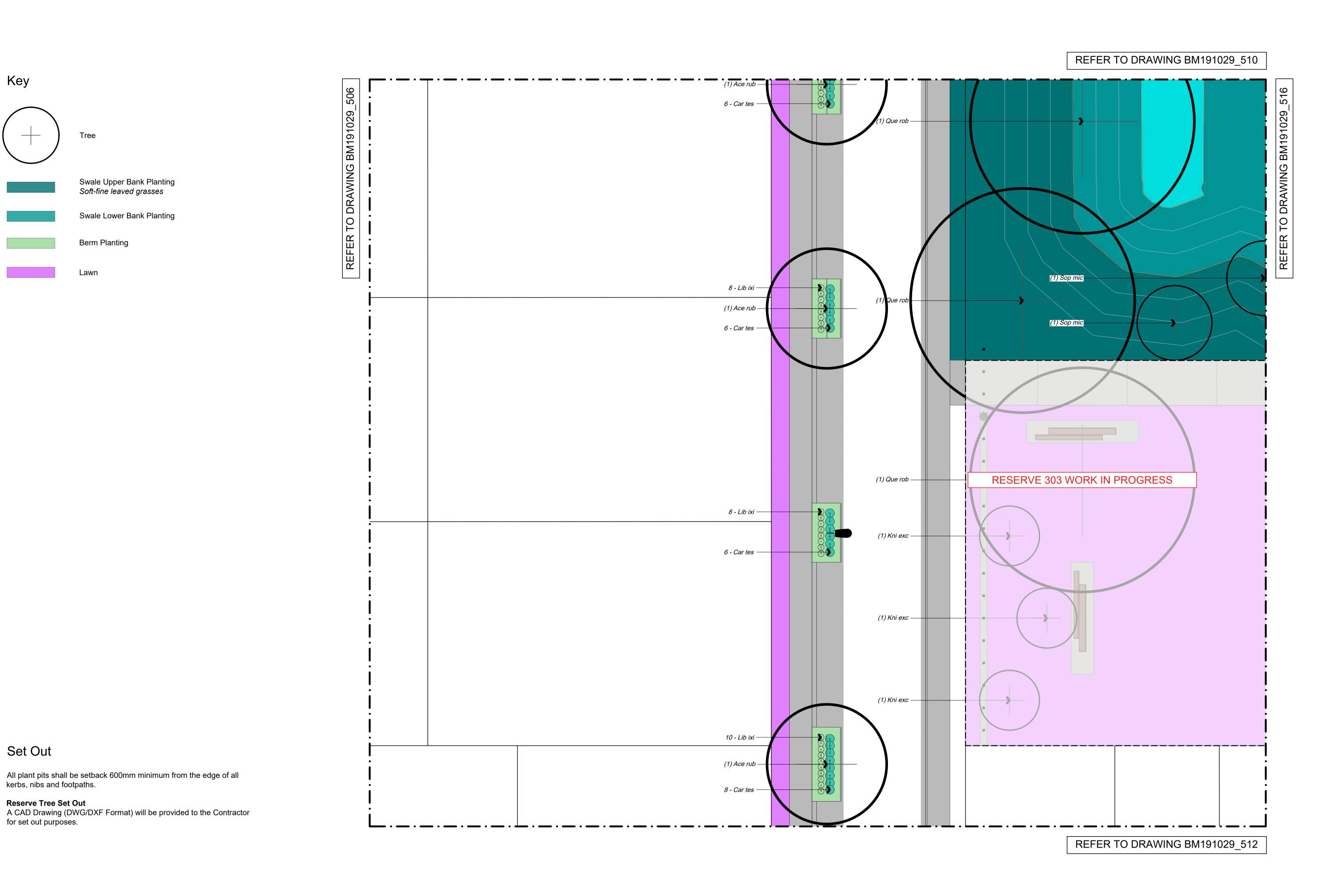
PLANTING PLAN SHEET 08 OF 18

Design ARo 1:125 @ A1 Drawn ARo Check DRAWING NO.

BM191029_510

17.11.21 1:250 @ A3 REVISION

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Printed 17/03/2022 3:55:27 pm

Set Out

kerbs, nibs and footpaths.

Reserve Tree Set Out

for set out purposes.

All plant pits shall be setback 600mm minimum from the edge of all

Key

Swale Upper Bank Planting Soft-fine leaved grasses

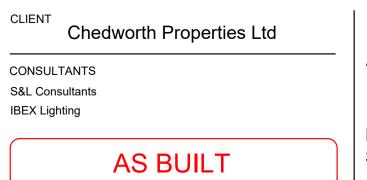
Swale Lower Bank Planting

Berm Planting

PRIOR TO COMMENCING WORK;

CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING
THE LOCATION OF ALL UNDERGROUND SERVICES ON
STAGE 16

REV DATE DESCRIPTION 17.11.21 ISSUED FOR CONSTRUCTION
 17.03.22 AS BUILT



GREENHILL PARK AREA KL&U

STAGE 16 PLANTING PLAN SHEET 09 OF 18 Design ARo 1:125 @ A1 Drawn ARo Check 1:250 @ A3 DRAWING NO.

BM191029_511

17.11.21

REVISION

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NOTES

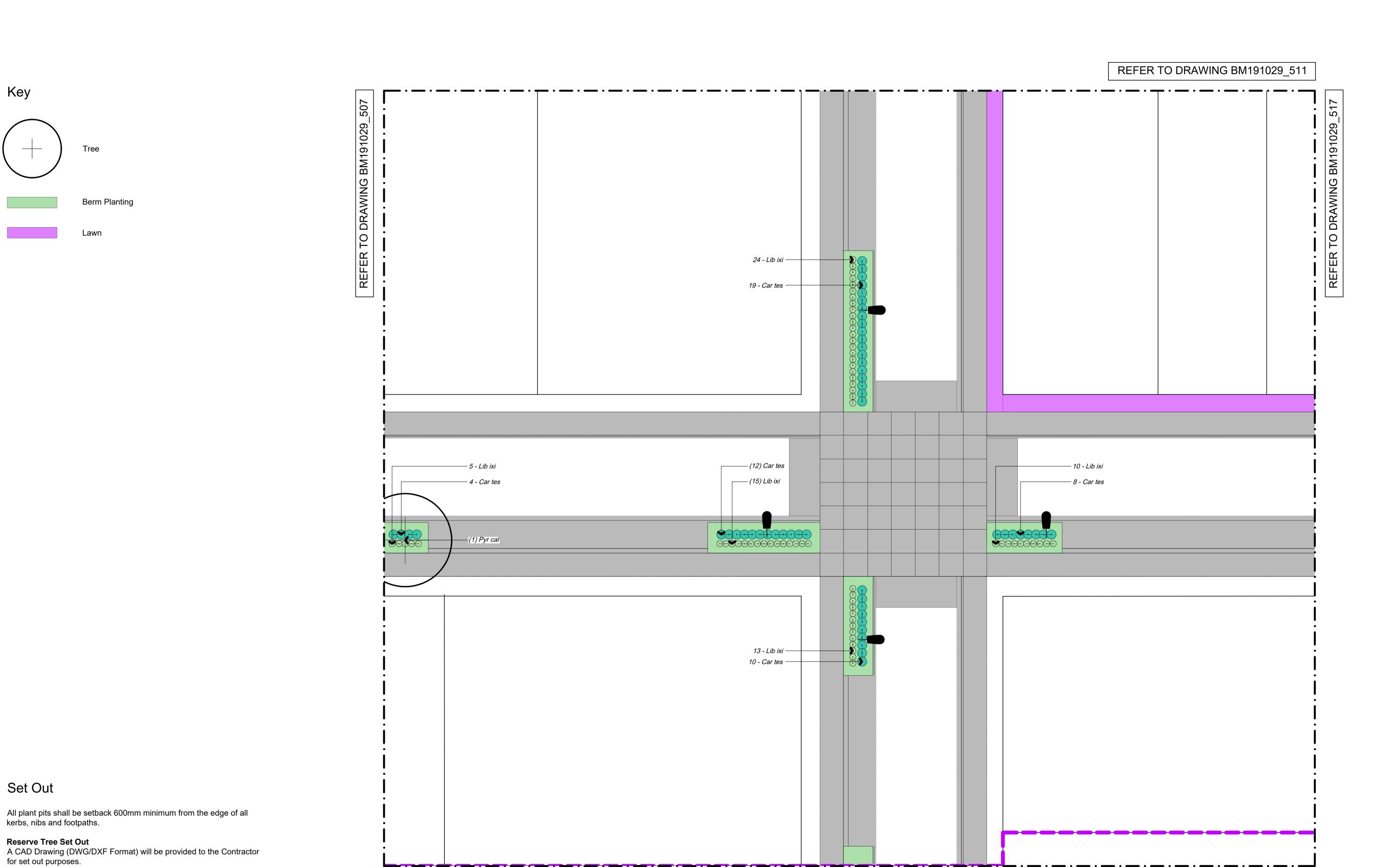
CONTRACTORS TO VERIFY ALL DIMENSIONS ON SITE

SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY

REFER TO DRAWING NUMBER BM191029_130 KEY



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Printed 17/03/2022 3:55:31 pm

Set Out

Key

NOTES

CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING
THE LOCATION OF ALL UNDERGROUND SERVICES ON
STAGE 16

KEY REFER TO DRAWING NUMBER BM191029_130 KEY

REV DATE DESCRIPTION 17.11.21 ISSUED FOR CONSTRUCTION
 17.03.22 AS BUILT



GREENHILL PARK AREA KL&U STAGE 16

Design ARo 1:125 @ A1 Drawn ARo Check 1:250 @ A3

17.11.21

REVISION

BM191029_512

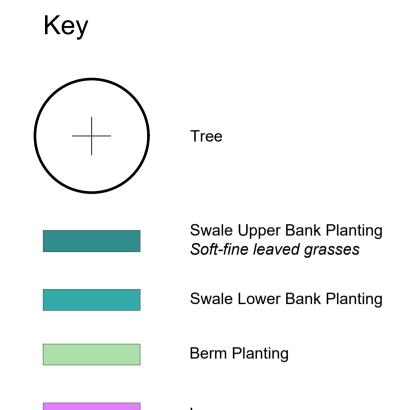
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CONTRACTORS TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK;

SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

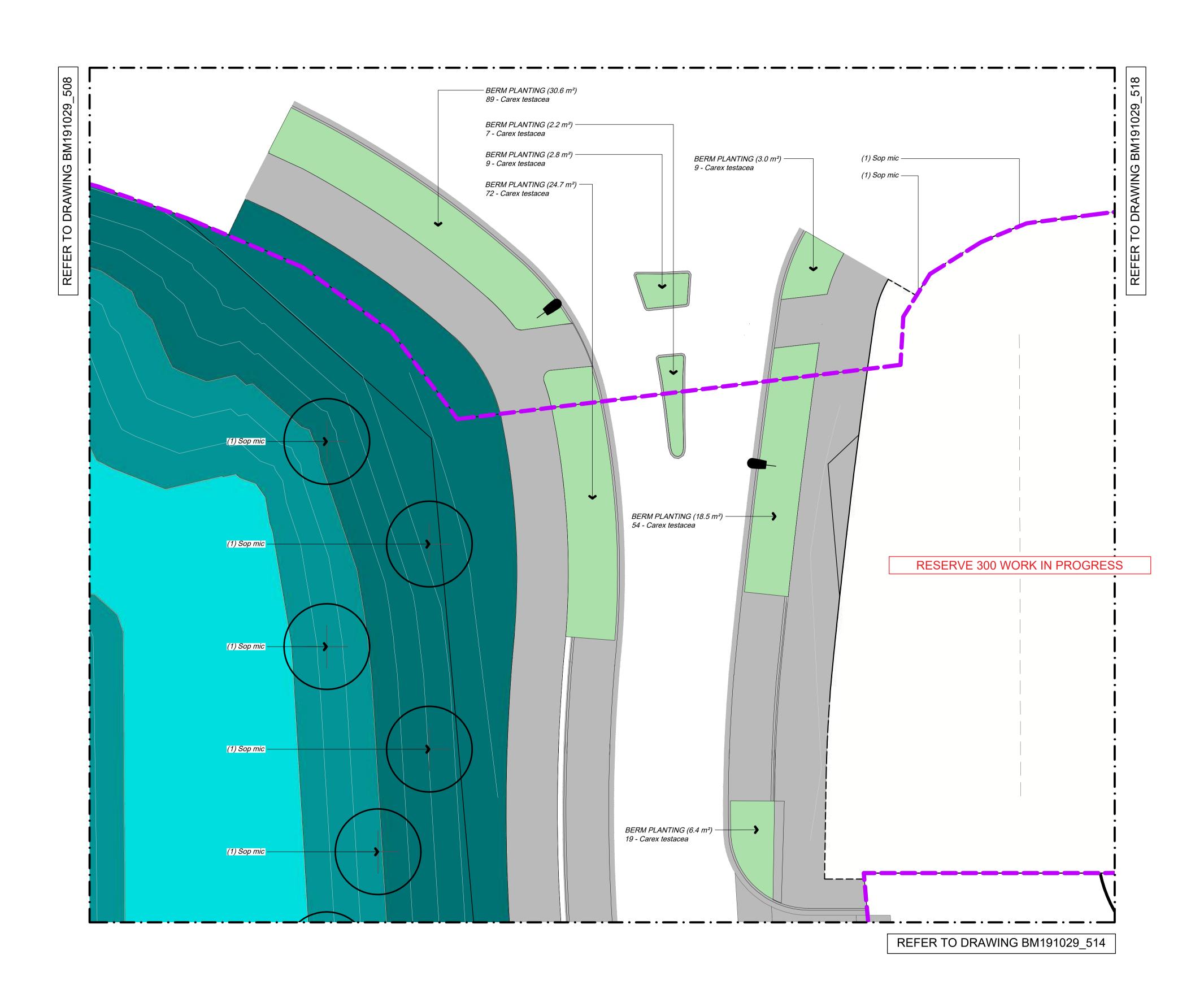


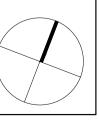
Set Out

All plant pits shall be setback 600mm minimum from the edge of all kerbs, nibs and footpaths.

Reserve Tree Set Out

A CAD Drawing (DWG/DXF Format) will be provided to the Contractor for set out purposes.





17.11.21



NOTES

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CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING
THE LOCATION OF ALL UNDERGROUND SERVICES ON
STAGE 16 SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY

REFER TO DRAWING NUMBER BM191029_130 KEY

REV DATE DESCRIPTION 1 17.03.22 AS BUILT

17.11.21 ISSUED FOR CONSTRUCTION

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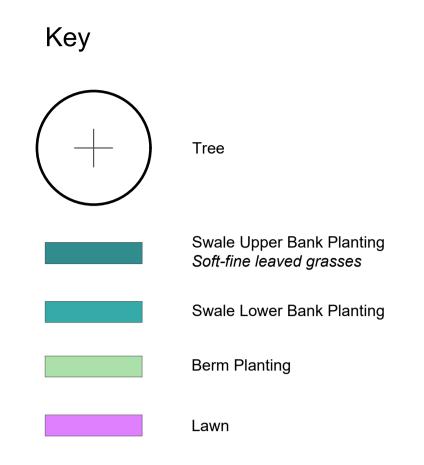


GREENHILL PARK AREA KL&U STAGE 16

Design ARo 1:125 @ A1 Drawn ARo Check DRAWING NO.

1:250 @ A3 REVISION BM191029_513

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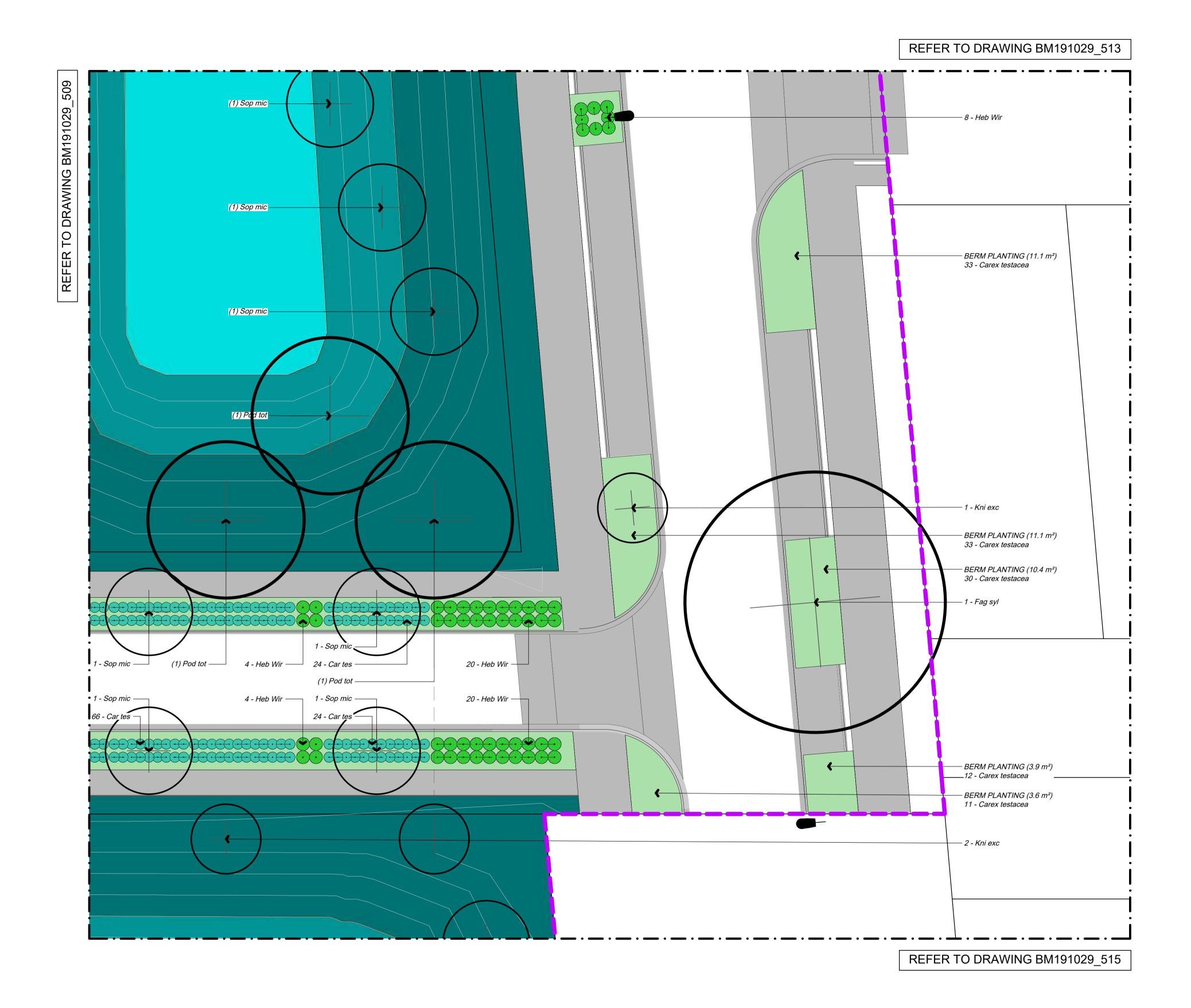


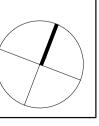
Set Out

All plant pits shall be setback 600mm minimum from the edge of all kerbs, nibs and footpaths.

Reserve Tree Set Out

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17.11.21

REVISION



NOTES

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FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY

REFER TO DRAWING NUMBER BM191029_130 KEY

REV DATE DESCRIPTION 1 17.03.22 AS BUILT

17.11.21 ISSUED FOR CONSTRUCTION

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Chedworth Properties Ltd CONSULTANTS S&L Consultants IBEX Lighting **AS BUILT**

GREENHILL PARK AREA KL&U STAGE 16

PLANTING PLAN **SHEET 12 OF 18** Design ARo 1:125 @ A1 Drawn ARo 1:250 @ A3 Check DRAWING NO.

BM191029_514

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Key Swale Upper Bank Planting Soft-fine leaved grasses Swale Lower Bank Planting Berm Planting

TO DRAWING BM191029 – (1) Sop mic – (1) Sop mic -(1) Pod tot – (1) Pod tot - (1) Pod tot — (1) Sop mic — (1) Sop mic —— (1) Sop mic REFER TO DRAWING BM191029_516

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Set Out

All plant pits shall be setback 600mm minimum from the edge of all kerbs, nibs and footpaths.

Reserve Tree Set Out

A CAD Drawing (DWG/DXF Format) will be provided to the Contractor for set out purposes.

> KEY REV DATE DESCRIPTION



CONTRACTORS TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK;

NOTES

510

CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING
THE LOCATION OF ALL UNDERGROUND SERVICES ON
STAGE 16 SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

REFER TO DRAWING NUMBER BM191029_130 KEY

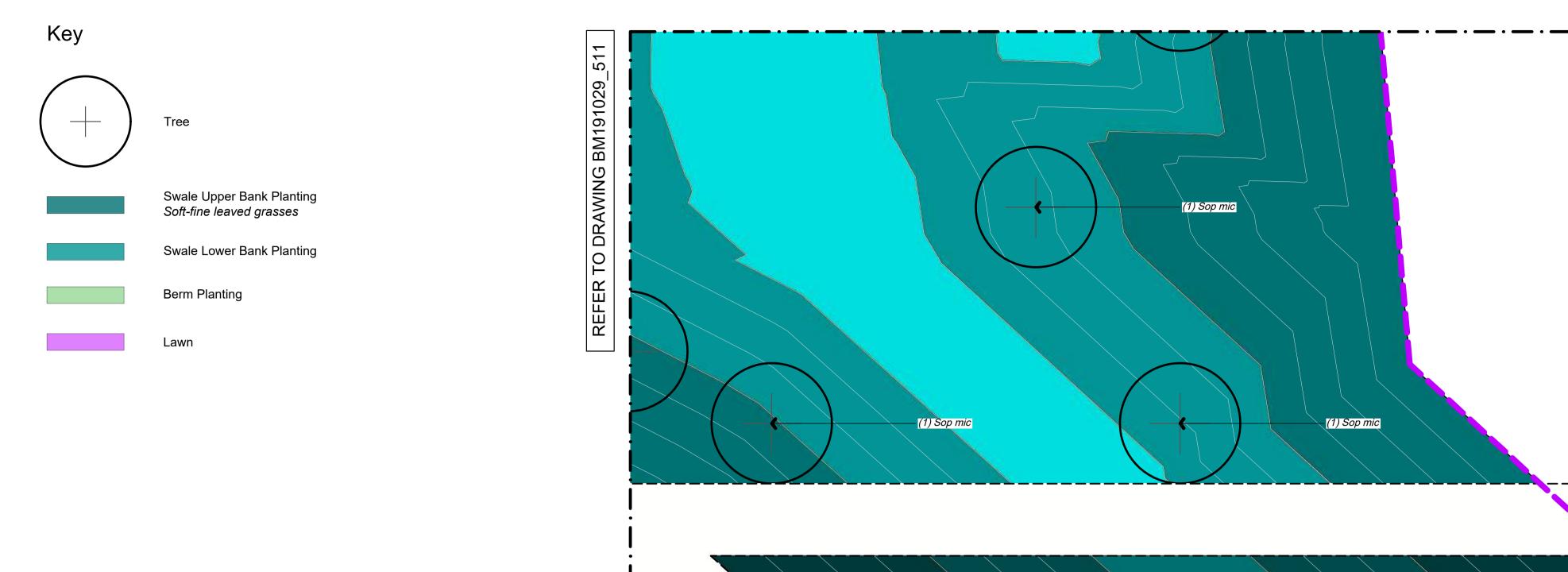
17.11.21 ISSUED FOR CONSTRUCTION
 17.03.22 AS BUILT

Chedworth Properties Ltd CONSULTANTS S&L Consultants IBEX Lighting SHEET 13 OF 18 **AS BUILT**

GREENHILL PARK AREA KL&U STAGE 16 PLANTING PLAN

REFER TO DRAWING BM191029_514

Design ARo 1:125 @ A1 Drawn ARo 17.11.21 Check 1:250 @ A3 DRAWING NO. REVISION BM191029_515

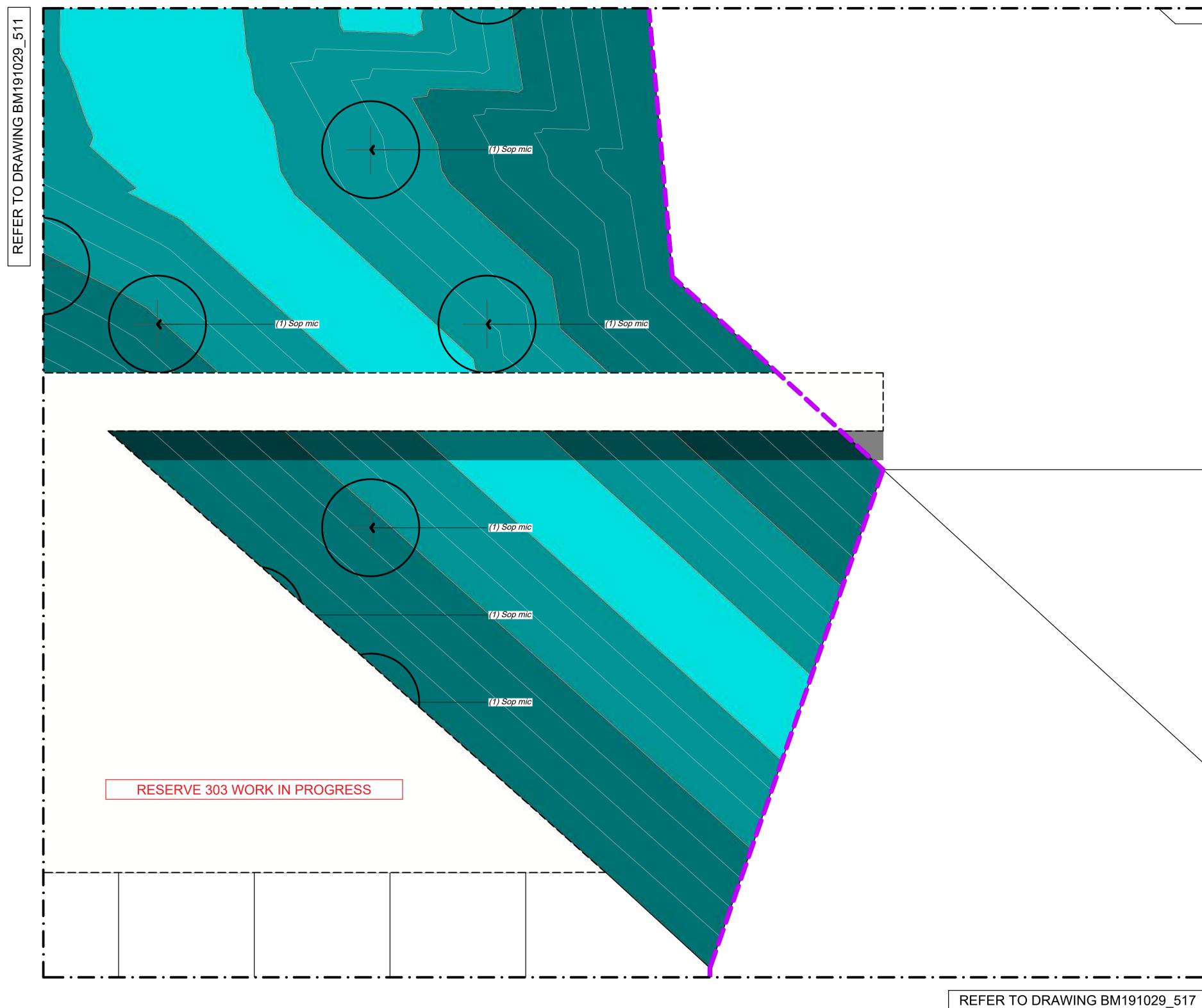


Set Out

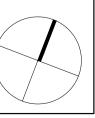
All plant pits shall be setback 600mm minimum from the edge of all kerbs, nibs and footpaths.

Reserve Tree Set Out

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NOTES

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FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY

REFER TO DRAWING NUMBER BM191029_130 KEY SHEET

REV DATE DESCRIPTION 17.11.21 ISSUED FOR CONSTRUCTION
 17.03.22 AS BUILT

Chedworth Properties Ltd CONSULTANTS S&L Consultants IBEX Lighting **AS BUILT**

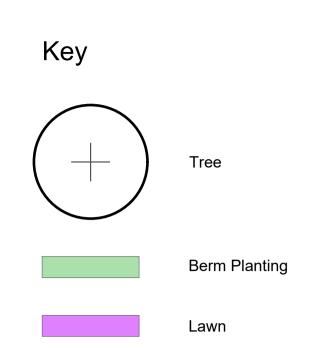
GREENHILL PARK AREA KL&U STAGE 16

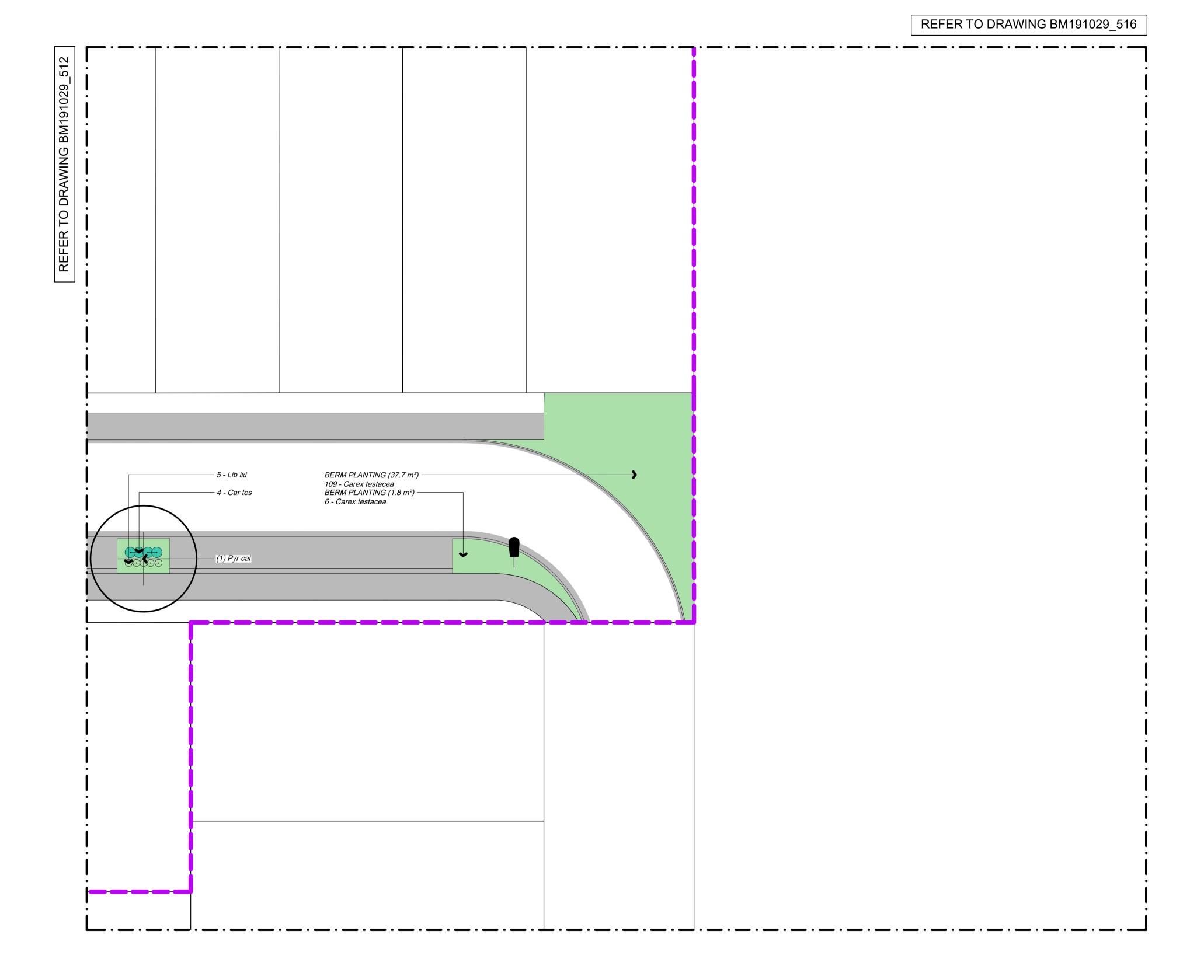
REFER TO DRAWING BM191029_515

PLANTING PLAN SHEET 14 OF 18

Design ARo Drawn ARo Check DRAWING NO. 1:125 @ A1 17.11.21 1:250 @ A3

BM191029_516





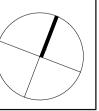
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Set Out

All plant pits shall be setback 600mm minimum from the edge of all kerbs, nibs and footpaths.

Reserve Tree Set Out

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REVISION



NOTES

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SITE PRIOR TO COMMENCING WORK;

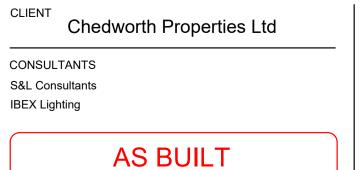
STAGE 16

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY
REFER TO DRAWING NUMBER BM191029_130 KEY
SHEET

30 KEY 1

REV DATE DESCRIPTION
- 17.11.21 ISSUED FOR CONSTRUCTION
1 17.03.22 AS BUILT



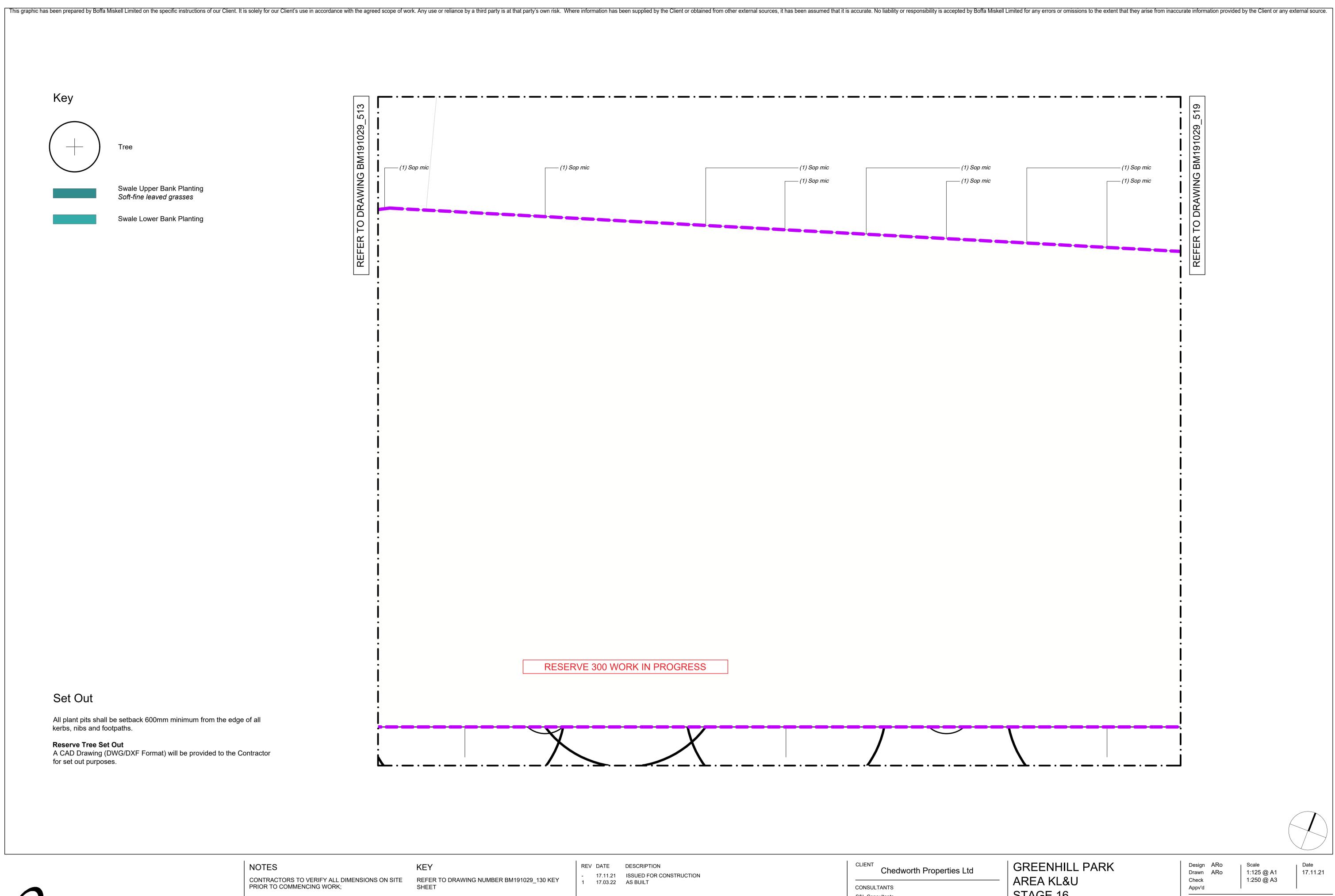
GREENHILL PARK AREA KL&U STAGE 16

PLANTING PLAN SHEET 15 OF 18 Design ARo
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BM191029_517





CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING
THE LOCATION OF ALL UNDERGROUND SERVICES ON
STAGE 16

SITE PRIOR TO COMMENCING WORK; FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

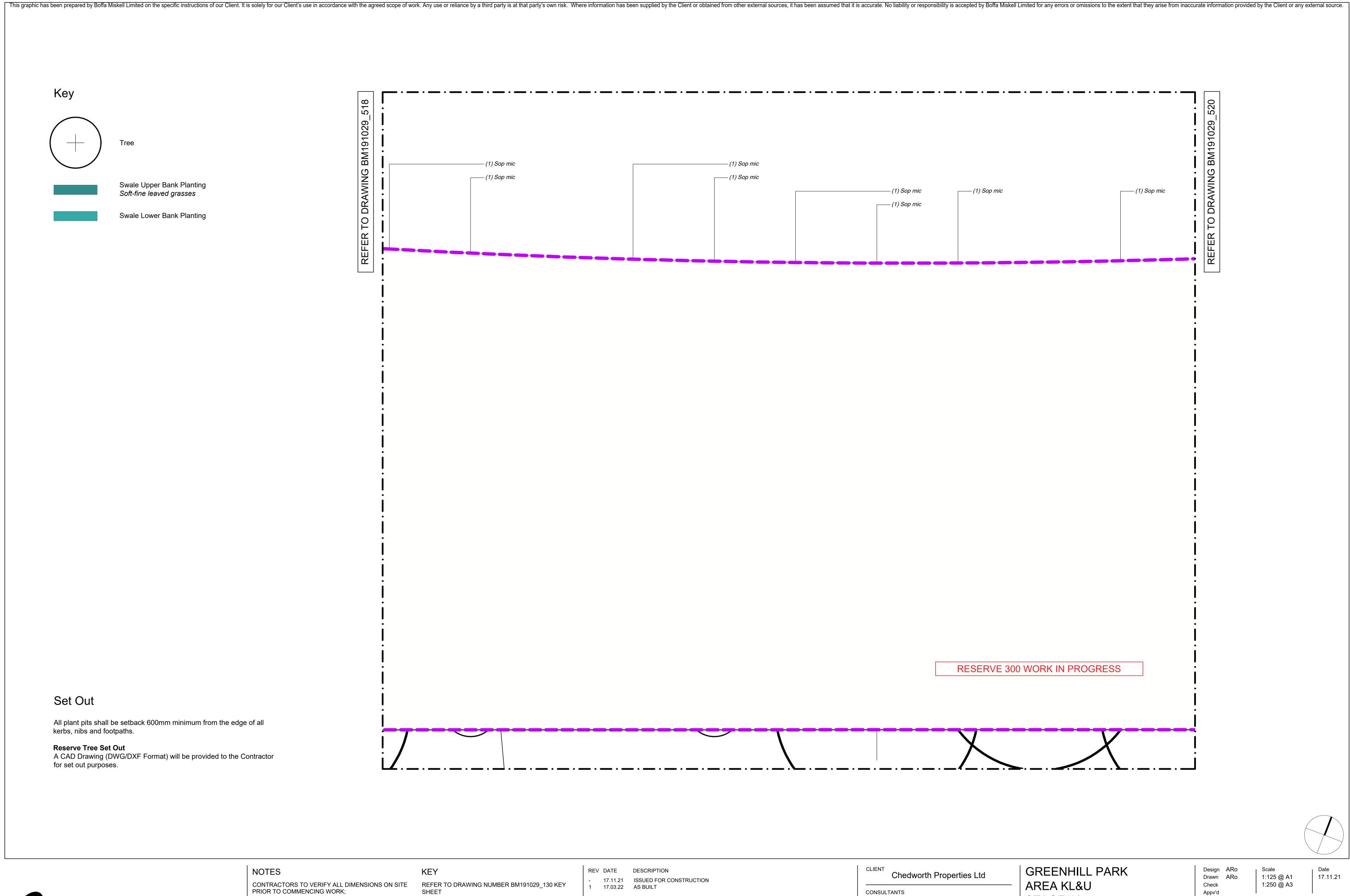
S&L Consultants IBEX Lighting PLANTING PLAN **AS BUILT**

STAGE 16

DRAWING NO. REVISION

BM191029_518

SHEET 16 OF 18 U:\2019\BM191029_ARo_Greenhill_Park_Area_K_&_L_Detailed_Design\CAD\As_Built_Drawings\Stage_16\BM191029_as_built_stage_16.dwg



STAGE 16

PLANTING PLAN

SHEET 17 OF 18

DRAWING NO.

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BM191029_519

REVISION

S&L Consultants

AS BUILT

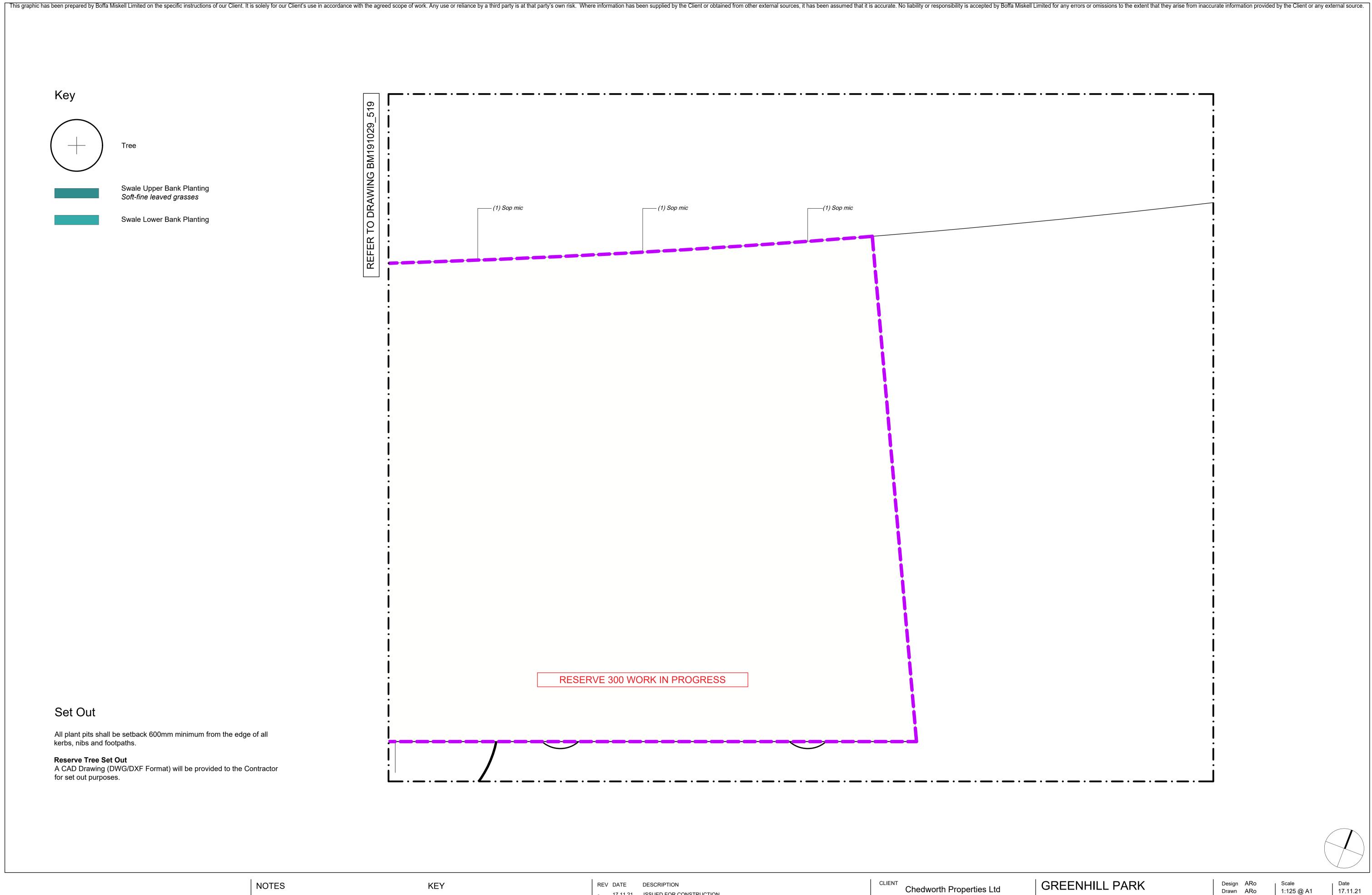
IBEX Lighting

Boffa Miskell
Printed 17/03/2022 3:56:09 pm

CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING
THE LOCATION OF ALL UNDERGROUND SERVICES ON
STAGE 16

SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.



Printed 17/03/2022 3:56:16 pm

CONTRACTORS TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK; CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING
THE LOCATION OF ALL UNDERGROUND SERVICES ON
STAGE 16 SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

REFER TO DRAWING NUMBER BM191029_130 KEY SHEET

17.11.21 ISSUED FOR CONSTRUCTION
 17.03.22 AS BUILT

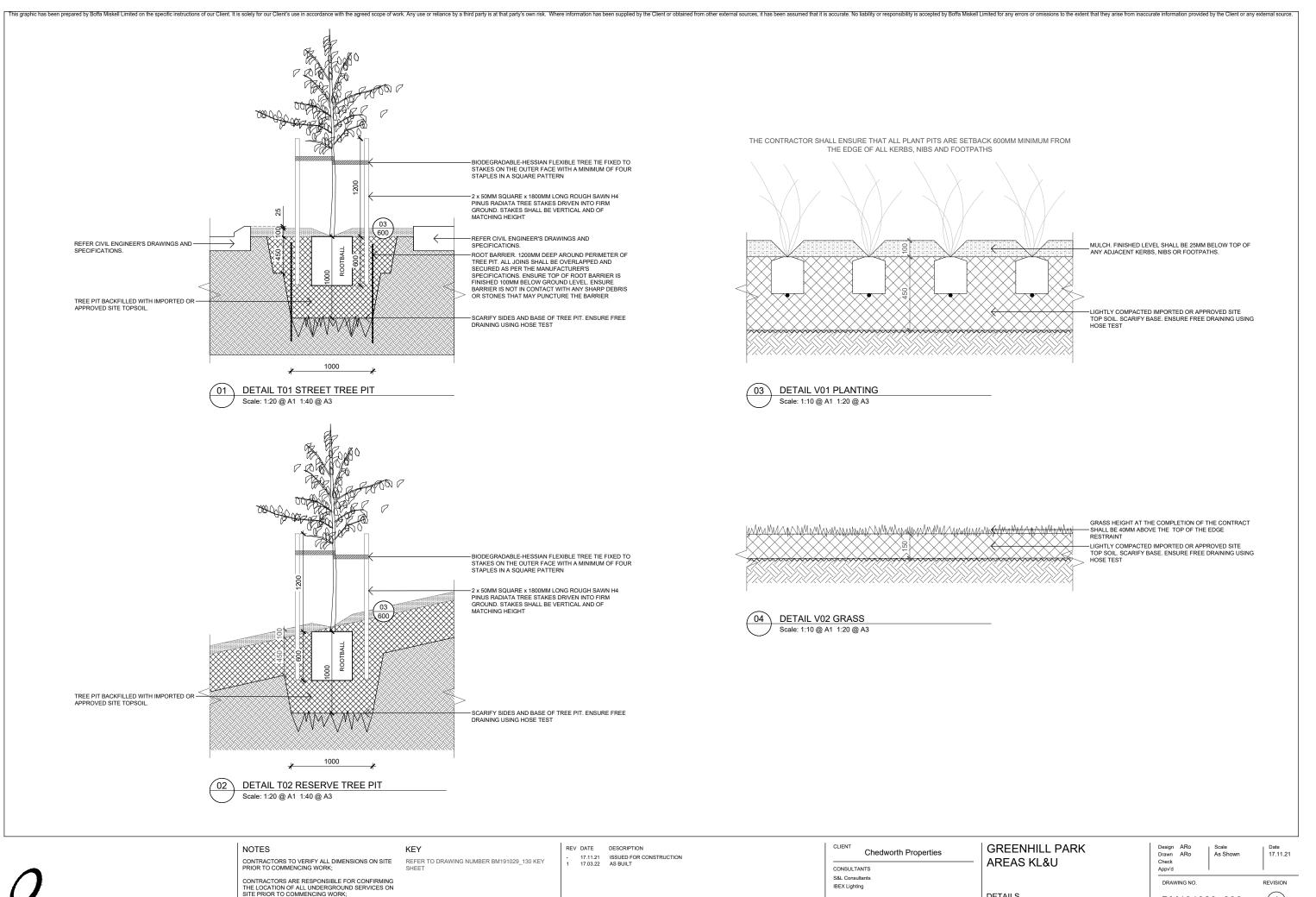
Chedworth Properties Ltd CONSULTANTS S&L Consultants IBEX Lighting PLANTING PLAN SHEET 18 OF 18 **AS BUILT**

GREENHILL PARK AREA KL&U STAGE 16

Check DRAWING NO. 1:125 @ A1 17.11.21 1:250 @ A3

REVISION

BM191029_520



FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

AS BUILT

DETAILS SHEET 01 OF 01

(1) BM191029_600

APPENDIX 10

Asset Spreadsheets – Hard copy

- Water asset sheets
- Wastewater asset sheets
- Stormwater asset sheets

As Built Datasheet (to accompany As Built Plans)			Waikato Regional ITS
WATER HYDRANTS			Form Version 1 - July 2017
Developer/Contractor:	Chedworth Properties Ltd / Online Contractors	Prepared by: S&L	

Date: Development/Subdivision/Job: Greenhill Park Mar-22 Stage:

Stage 16

Plan ID	Hydrant ID	Pipe ID	Property ID (Lot No. or Address)	Street Name	Street Type	Hydrant Size (mm)	Physical Location (where necessary)	Easting Coordinate	Northing Coordinate	Service Status	Install Date	Asset Value	Comments
30410-01-S16-W1	FH16.1	RM1	LOT 301	CHILMAN	TERRACE	150	BERM	447252.42	702668.39	N	Nov-21	\$1,212	
30410-01-S16-W1	FH16.2	RM4	LOT 8004	MUSSELWHITE	TERRACE	150	FOOTPATH	447133.31	702594.66	N	Nov-21	\$1,010	
30410-01-S16-W1	FH16.3	RM6	LOT 8011	MUSSELWHITE	TERRACE	150	BERM	447150.34	702533.86	N	Nov-21	\$1,010	
30410-01-S16-W1	FH16.4	RM2	LOT 460	EARP	CRESCENT	150	FOOTPATH	447216.44	702547.19	N	Nov-21	\$1,010	
30410-01-S16-W1	FH16.5	RM11	LOT 8117	COGAR	TERRACE	150	BERM	447293.29	702511.11	N	Nov-21	\$1,010	

As Built Datasheet (to accompany As Built Plans) WATER PIPELINES

Waikato Regional ITS

Form Version 1 - July 2017

Developer/Contractor: Chedworth Properties Ltd / Online Contractors

Prepared by: S & L

Mar-22

Date:

Development/Subdivision/Job:

Greenhill Park

ge: Stage 16

Plan ID	Pipe ID	Pipe Diameter (mm)	Pipe Length (m)	Laying Depth (m)	Pipe Material	Joint Type	Service Status	Install Date	Asset Value	Comments
30410-01-S16-W1	RM1	150	86.4	1.2	PVC-M PN12	RRJ	N	Nov-21	\$2,269	
30410-01-S16-W1	RM2	150	219.7	1.2	PVC-M PN12	RRJ	N	Nov-21	\$5,769	
30410-01-S16-W1	RM3	150	63.5	1.2	PVC-M PN12	RRJ	N	Nov-21	\$1,668	
30410-01-S16-W1	RM4	150	166.9	1.2	PVC-M PN12	RRJ	N	Nov-21	\$4,383	
30410-01-S16-W1	RM5	150	22.6	1.2	PVC-M PN12	RRJ	N	Nov-21	\$593	
30410-01-S16-W1	RM6	150	27.3	1.2	PVC-M PN12	RRJ	N	Nov-21	\$717	
30410-01-S16-W1	RM7	150	52.9	1.2	PVC-M PN12	RRJ	N	Nov-21	\$1,389	
30410-01-S16-W1	RM8	150	32.0	1.2	PVC-M PN12	RRJ	N	Nov-21	\$840	
30410-01-S16-W1	RM9	150	44.1	1.2	PVC-M PN12	RRJ	N	Nov-21	\$1,158	
30410-01-S16-W1	RM10	150	46.4	1.2	PVC-M PN12	RRJ	N	Nov-21	\$1,218	
30410-01-S16-W1	RM11	150	16.1	1.2	PVC-M PN12	RRJ	N	Nov-21	\$423	
30410-01-S16-W1	RM12	63	19.5	1.2	PE80 SDR11 PN12.5	RRJ	N	Nov-21	\$305	
30410-01-S16-W1	RM13	63	28.8	1.2	PE80 SDR11 PN12.5	RRJ	N	Nov-21	\$451	
30410-01-S16-W1	RM14	63	167.8	1.2	PE80 SDR11 PN12.5	RRJ	N	Nov-21	\$2,626	
30410-01-S16-W1	RM15	63	29.5	1.2	PE80 SDR11 PN12.5	RRJ	N	Nov-21	\$462	
30410-01-S16-W1	RM16	63	12.2	1.2	PE80 SDR11 PN12.5	RRJ	N	Nov-21	\$191	

Form Version 1 - July 2017

Developer/Contractor:

Development/Subdivision/Job:

Stage:

Chedworth Properties Ltd / Online Contractors

Greenhill Park Stage 16

Prepared by: Date:

S & L Mar-22

Plan ID	Pipe ID	Property ID (Lot No. or Address)	Street Name	Street Type	Physical Location (where necessary)	Service Pipe Diam (mm)	Service Pipe Length (m)	Service Pipe Material	Easting Coordinate	Northing Coordinate	Distance from left (LB) or right (RB) boundary (m)	Meter Installed (Y/N)	Service Status	Install Date	Asset Value	Comments
30410-01-S16-W1	RM4	LOT 450	MUSSELWHITE	TERRACE	BERM	25	1.9	MDPE	447177.92	702644.90	2.0LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM4	LOT 451	MUSSELWHITE	TERRACE	BERM	25	1.0	MDPE	447164.45	702639.81	2.6LB	N	Z	Nov-21	\$293	
30410-01-S16-W1	RM4	LOT 452	MUSSELWHITE	TERRACE	BERM	25	1.1	MDPE	447149.78	702634.20	1.9LB	N	Ν	Nov-21	\$293	
30410-01-S16-W1	RM4	LOT 453	MUSSELWHITE	TERRACE	BERM	25	1.1	MDPE	447135.30	702628.80	1.4LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM4	LOT 454	MUSSELWHITE	TERRACE	BERM	25	2.4	MDPE	447126.34	702625.28	3.8LB	N	Ν	Nov-21	\$293	
30410-01-S16-W1	RM4	LOT 455	MUSSELWHITE	TERRACE	BERM	25	8.9	MDPE	447119.37	702622.62	3.7RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM4	LOT 456	MUSSELWHITE	TERRACE	BERM	25		MDPE				N	N	Nov-21	\$293	
30410-01-S16-W1	RM2	LOT 457	EARP	CRESCENT	BERM	25	0.5	MDPE	447197.01	702595.75	2.8RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM2	LOT 458	EARP	CRESCENT	BERM	25	0.7	MDPE	447201.61	702583.33	1.0RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM2	LOT 459	EARP	CRESCENT	BERM	25	0.8	MDPE	447207.80	702567.52	3.0RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM2	LOT 460	EARP	CRESCENT	BERM	25	0.6	MDPE	447212.77	702554.15	2.3RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM2	LOT 461	EARP	CRESCENT	BERM	25	0.8	MDPE	447218.11	702540.18	2.2RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM2	LOT 462	EARP	CRESCENT	BERM	25	0.9	MDPE	447223.00	702527.05	1.2RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM9	LOT 463	COGAR	TERRACE	BERM	25	1.0	MDPE	447233.60	702489.17	3.0RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM9	LOT 464	COGAR	TERRACE	BERM	25	0.7	MDPE	447210.87	702480.42	1.6LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM9	LOT 465	COGAR	TERRACE	BERM	25	0.6	MDPE	447196.86	702475.28	3.7LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM14	LOT 466	MUSSELWHITE	TERRACE	BERM	25	0.7	MDPE	447178.97	702510.72	1.0LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM14	LOT 467	MUSSELWHITE	TERRACE	BERM	25	0.6	MDPE	447173.78	702524.27	1.4LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM14	LOT 468	MUSSELWHITE	TERRACE	BERM	25	0.4	MDPE	447168.90	702537.40	2.4LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM14	LOT 469	MUSSELWHITE	TERRACE	BERM	25	0.3	MDPE	447163.43	702551.81	2.0LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM14	LOT 470	MUSSELWHITE	TERRACE	BERM	25	0.4	MDPE	447158.05	702565.69	2.1LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM14	LOT 471	MUSSELWHITE	TERRACE	BERM	25	0.5	MDPE	447153.02	702579.22	2.7LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM7	LOT 472	MUSSELWHITE	TERRACE	BERM	25	0.9	MDPE	447161.31	702517.45	5.0RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM7	LOT 473	MUSSELWHITE	TERRACE	BERM	25	0.8	MDPE	447166.45	702504.03	2.4RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM7	LOT 474	MUSSELWHITE	TERRACE	BERM	25	0.8	MDPE	447171.07	702491.66	0.6RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM7	LOT 475	MUSSELWHITE	TERRACE	BERM	25	0.6	MDPE	447176.59	702477.43	0.9RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM15	LOT 476	MUSSELWHITE	TERRACE	BERM	25	0.3	MDPE	447181.02	702465.65	1.5RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM15	LOT 477	MUSSELWHITE	TERRACE	BERM	25	0.9	MDPE	447186.33	702451.46	2.6RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM11	LOT 478	MUSSELWHITE	TERRACE	BERM	25	0.7	MDPE	447198.07	702459.79	2.3LB	N	Ν	Nov-21	\$293	
30410-01-S16-W1	RM3	LOT 479	EARP	CRESCENT	BERM	25	0.7	MDPE	447241.79	702477.68	1.1RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM12	LOT 480	EARP	CRESCENT	BERM	25	0.7	MDPE	447253.24	702481.11	1.9LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM4	LOT 8001	MUSSELWHITE	TERRACE	BERM	25	1.9	MDPE	447124.92	702613.77	2.3RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM4	LOT 8002	MUSSELWHITE	TERRACE	BERM	25	1.3	MDPE	447127.07	702608.15	0.1RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM4	LOT 8003	MUSSELWHITE	TERRACE	BERM	25	1.1	MDPE	447131.78	702595.72	0.6LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM4	LOT 8004	MUSSELWHITE	TERRACE	BERM	25	1.1	MDPE	447132.55	702593.61	1.6RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM4	LOT 8005	MUSSELWHITE	TERRACE	BERM	25	1.1	MDPE	447136.46	702583.37	2.4LB	N	N	Nov-21	\$293	

Infrastructure Technical Specification Section 1 - General

As Built Datasheet (to accompany As Built Plans) Waikato Regional ITS WATER CONNECTION/SERVICE LINE Form Version 1 - July 2017 S & L

Mar-22

Developer/Contractor: Chedworth Properties Ltd / Online Contractors Greenhill Park

Prepared by: Date:

Stage 16

Development/Subdivision/Job:

Plan ID	Pipe ID	Property ID (Lot No. or Address)	Street Name	Street Type	Physical Location (where necessary)	Service Pipe Diam (mm)	Service Pipe Length (m)	Service Pipe Material	Easting Coordinate	Northing Coordinate	Distance from left (LB) or right (RB) boundary (m)	Meter Installed (Y/N)	Service Status	Install Date	Asset Value	Comments
30410-01-S16-W1	RM4	LOT 8006	MUSSELWHITE	TERRACE	BERM	25	1.1	MDPE	447137.74	702579.91	1.3RB	Z	N	Nov-21	\$293	
30410-01-S16-W1	RM4	LOT 8007	MUSSELWHITE	TERRACE	BERM	25	0.9	MDPE	447142.45	702567.55	0.5LB	Ν	N	Nov-21	\$293	
30410-01-S16-W1	RM4	LOT 8008	MUSSELWHITE	TERRACE	BERM	25	1.0	MDPE	447143.35	702564.97	2.2RB	Ν	N	Nov-21	\$293	
30410-01-S16-W1	RM4	LOT 8009	MUSSELWHITE	TERRACE	BERM	25	0.8	MDPE	447147.64	702553.76	-0.2LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM4	LOT 8010	MUSSELWHITE	TERRACE	BERM	25	0.8	MDPE	447148.05	702552.57	1.5RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM4	LOT 8011	MUSSELWHITE	TERRACE	BERM	25		MDPE				N	N	Nov-21	\$293	
30410-01-S16-W1	RM14	LOT 8012	ACCESS LOT	N/A	BERM	25	0.8	MDPE	447156.67	702591.83	2.7RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM14	LOT 8013	ACCESS LOT	N/A	BERM	25	0.8	MDPE	447163.78	702594.59	1.5RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM14	LOT 8014	ACCESS LOT	N/A	BERM	25	0.9	MDPE	447167.71	702596.00	2.6LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM14	LOT 8015	ACCESS LOT	N/A	BERM	25	0.9	MDPE	447174.21	702598.44	3.1LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM14	LOT 8016	ACCESS LOT	N/A	BERM	25	0.6	MDPE	447180.72	702600.94	3.0RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM14	LOT 8017	ACCESS LOT	N/A	BERM	25	0.6	MDPE	447187.19	702603.30	3.9LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM10	LOT 8018	COGAR	TERRACE	BERM	25	0.2	MDPE	447252.26	702496.12	3.9LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM10	LOT 8019	COGAR	TERRACE	BERM	25	0.4	MDPE	447260.82	702499.36	2.7RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM10	LOT 8020	COGAR	TERRACE	BERM	25	0.5	MDPE	447268.05	702502.04	0.8RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM10	LOT 8021	COGAR	TERRACE	BERM	25	0.6	MDPE	447270.48	702503.05	1.8LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM10	LOT 8022	COGAR	TERRACE	BERM	25	0.5	MDPE	447278.07	702505.80	1.7RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM10	LOT 8023	COGAR	TERRACE	BERM	25	0.5	MDPE	447280.33	702506.75	0.7LB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM10	LOT 8024	COGAR	TERRACE	BERM	25	0.3	MDPE	447288.38	702509.65	2.3RB	N	N	Nov-21	\$293	
30410-01-S16-W1	RM10	LOT 8117	COGAR	TERRACE	BERM	25	1.6	MDPE	447297.95	702513.40	1.7RB	N	N	Nov-21	\$293	

Infrastructure Technical Specifications Section 1 - General

As Built Datasheet (to accompany As Built Plans) WATER VALVES

Waikato Regional ITS

Form Version 1 - July 2017

Developer/Contractor:

Stage:

Chedworth Properties Ltd / Online Contractors

Prepared by: S & L Date: Mar-22

Development/Subdivision/Job:

Greenhill Park

Stage 14

Plan ID	Valve ID	Pipe ID	Property ID (Lot No. or Address)	Street Name	Street Type	Valve Size (mm)	Valve Manufacturer	Easting Coordinate	Northing Coordinate	Service Status	Install Date	Asset Value	Comments
30410-01-S16-W1	SV16.1	RM1	LOT 301	CHILMAN	TERRACE	150	HAWLE	447259.44	702649.34	N	Nov-21	\$960	
30410-01-S16-W1	SV16.2	RM1	LOT 301	CHILMAN	TERRACE	150	HAWLE	447265.16	702646.17	N	Nov-21	\$960	
30410-01-S16-W1	SV16.3	RM2	LOT 8017	MUSSELWHITE	TERRACE	150	HAWLE	447187.49	702623.85	N	Nov-21	\$960	
30410-01-S16-W1	SV16.4	RM4	LOT 8011	MUSSELWHITE	TERRACE	150	HAWLE	447153.97	702538.97	N	Nov-21	\$960	
30410-01-S16-W1	SV16.5	RM5	LOT 8011	WATKINS	STREET	150	HAWLE	447153.19	702534.96	N	Nov-21	\$960	
30410-01-S16-W1	SV16.6	RM5	LOT 472	MUSSELWHITE	TERRACE	150	HAWLE	447160.83	702521.41	N	Nov-21	\$960	
30410-01-S16-W1	SV16.7	RM7	LOT 475	MUSSELWHITE	TERRACE	150	HAWLE	447179.41	702471.91	N	Nov-21	\$960	
30410-01-S16-W1	SV16.8	RM8	LOT 465	COGAR	TERRACE	150	HAWLE	447193.28	702473.34	N	Nov-21	\$960	
30410-01-S16-W1	SV16.9	RM11	LOT 478	MUSSELWHITE	TERRACE	150	HAWLE	447196.85	702460.36	N	Nov-21	\$960	
30410-01-S16-W1	SV16.10	RM9	LOT 463	COGAR	TERRACE	150	HAWLE	447234.62	702488.43	N	Nov-21	\$960	
30410-01-S16-W1	SV16.11	RM2	LOT 463	EARP	CRESENT	150	HAWLE	447237.16	702492.03	N	Nov-21	\$960	
30410-01-S16-W1	SV16.12	RM10	LOT 8018	COGAR	TERRACE	150	HAWLE	447253.52	702495.89	N	Nov-21	\$960	
30410-01-S16-W1	PV16.1	RM14	LOT 8017	ACCESS LOT	N/A	63	HAWLE	447192.04	702604.68	N	Nov-21	\$505	
30410-01-S16-W1	PV16.2	RM13	LOT 472	WATKINS	STREET	63	HAWLE	447158.70	702523.35	N	Nov-21	\$505	
30410-01-S16-W1	PV16.3	RM14	LOT 465	MUSSELWHITE	TERRACE	63	HAWLE	447192.12	702474.36	N	Nov-21	\$505	
30410-01-S16-W1	PV16.4	RM12	LOT 480	COGAR	TERRACE	63	HAWLE	447252.78	702484.21	N	Nov-21	\$505	

As Built Datasheet (to accompany As Built Plans)

Developer/Contractor:

Waikato Regional ITS Form Version 1 - July 2017

Development/Subdivision/Job:

Stage:

WASTEWATER MANHOLES

Chedworth Properties Ltd / Online Contractors

Prepared by: S & L Date:

Greenhill Park

Stage 16

Mar-22

(Centre)

(Centre) (Centre)

					(,			((,				
Plan ID	Manhole ID	Property ID (Lot No. or Address)	Street Name	Street Type	Lid Level (m)	Invert Level (m)	MH Width/Diam (mm)	Easting Coordinate	Northing Coordinate	Service Status	Install Date	Asset Value	Comments
30410-01-S16-WW1	WWMH 1-14	N/A	N/A	N/A	38.788	34.40	1050	447420.084	702742.811	N	Sep-21	\$5,235.90	LOCATE INSIDE BALANCE LOT
30410-01-S16-WW1	WWMH 1-13	N/A	N/A	N/A	38.515	34.43	1050	447417.911	702739.291	N	Sep-21	\$5,235.90	LOCATE INSIDE BALANCE LOT
30410-01-S16-WW1	WWMH 1-12	N/A	N/A	N/A	38.242	35.06	1050	447323.408	702703.391	N	Sep-21	\$4,314.60	LOCATE INSIDE BALANCE LOT
30410-01-S16-WW1	WWMH 1-11	LOT 301	CHILMAN	TERRACE	37.98	35.63	1050	447240.102	702670.596	N	Sep-21	\$2,666.77	
30410-01-S16-WW1	WWMH 1-10	LOT 302	CHILMAN	TERRACE	38.152	35.85	1050	447251.763	702640.989	N	Sep-21	\$2,666.77	
30410-01-S16-WW1	WWMH 1-9	LOT 8017	EARP	CRESCENT	38.506	36.31	1050	447196.380	702620.002	N	Sep-21	\$2,666.77	
30410-01-S16-WW1	WWMH 1-8	LOT 459/460	EARP	CRESCENT	39.024	36.67	1050	447219.173	702559.519	N	Sep-21	\$2,666.77	
30410-01-S16-WW1	WWMH 1-7	LOT 8018	EARP	CRESCENT	41.354	37.15	1050	447245.681	702489.035	N	Sep-21	\$5,235.90	
30410-01-S16-WW1	WWMH 1-6	LOT 509	EARP	CRESCENT	40.992	37.55	1050	447265.176	702437.529	N	Sep-21		STG 17
30410-01-S16-WW1	WWMH 1-9-4	LOT 450	MUSSELWHITE	TERRACE	38.443	36.46	1050	447187.819	702642.599	N	Sep-21	\$2,666.77	
30410-01-S16-WW1	WWMH 1-9-3	LOT 454	MUSSELWHITE	TERRACE	38.467	36.91	1050	447129.716	702618.550	N	Sep-21	\$2,316.60	
30410-01-S16-WW1	WWMH 1-9-2	LOT 470	MUSSELWHITE	TERRACE	40.426	37.66	1050	447154.412	702558.109	N	Sep-21	\$4,314.60	
30410-01-S16-WW1	WWMH 1-9-1	LOT 478	MUSSELWHITE	TERRACE	42.972	41.69	1050	447192.159	702458.622	N	Sep-21	\$2,666.77	
30410-01-S16-WW1	WWMH 1-7B-1	LOT 464	COGAR	TERRACE	42.229	40.17	1050	447214.322	702477.369	N	Sep-21	\$2,666.77	
30410-01-S16-WW1	WWMH 1-7A-4	LOT 8117	COGAR	TERRACE	39.319	37.53	1050	447298.957	702509.127	N	Sep-21	\$2,666.77	

As Built Datasheet (to accompany As Built Plans)

Waikato Regional ITS

Form Version 1 - July 2017

WASTEWATER PIPELINES

Chedworth Properties Ltd / Online Contractors

Prepared by: S&L

Development/Subdivision/Job:

Greenhill Park

Date: Mar-22

Stage:

Developer/Contractor:

Stage 16

Plan ID	Upstr MH/ Asset ID	Dwnstr MH/ Asset ID	Street Name	Street Type	Physical Location (where necessary)	Pipe Diameter (mm)	Pipe Length (m)	Pipe Material	Joint Type	Invert Level Upstr (m)	Invert Level Dwnstr (m)	Service Status	Install Date	Asset Value	Comments
30410-01-S16-WW1	WWMH 1-14	WWMH 18.4	CARRS	ROAD			7.000	OPVC	RR			N	Sep-21	\$3,791.90	
30410-01-S16-WW1	WWMH 1-13	WWMH 1-14	CHILMAN	TER	ROADWAY	150	4.173	OPVC	RR	34.425	34.405	N	Sep-21	\$1,875.90	
30410-01-S16-WW1	WWMH 1-12	WWMH 1-13	CHILMAN	TER	ROADWAY	150	101.099	OPVC	RR	35.063	34.457	N	Sep-21	\$37,893.18	
30410-01-S16-WW1	WWMH 1-11	WWMH 1-12	CHILMAN	TER	ROADWAY	150	89.535	OPVC	RR	35.626	35.129	N	Sep-21	\$21,978.00	
30410-01-S16-WW1	WWMH 1-10	WWMH 1-11	EARP	CRES	ROADWAY	150	31.823	OPVC	RR	35.847	35.653	N	Sep-21	\$7,814.40	
30410-01-S16-WW1	WWMH 1-9	WWMH 1-10	EARP	CRES	ROADWAY	150	59.231	OPVC	RR	36.314	35.974	N	Sep-21	\$14,652.00	
30410-01-S16-WW1	WWMH 1-8	WWMH 1-9	EARP	CRES	ROADWAY	150	64.640	OPVC	RR	36.675	36.328	N	Sep-21	\$15,628.80	
30410-01-S16-WW1	WWMH 1-7	WWMH 1-8	EARP	CRES	ROADWAY	150	75.309	OPVC	RR	37.151	36.798	N	Sep-21	\$18,559.20	
30410-01-S16-WW1	WWMH 1-6	WWMH 1-7	EARP	CRES	ROADWAY	150	55.076	OPVC	RR	37.545	37.201	N	Sep-21	\$20,663.40	
30410-01-S16-WW1	WWMH 1-9-4	WWMH 1-9	EARP	CRES	BERM/ROAD	150	24.166	OPVC	RR	36.461	36.336	N	Sep-21	\$4,528.80	
30410-01-S16-WW1	WWMH 1-9-3	WWMH 1-9-4	EARP	CRES	BERM	150	61.238	OPVC	RR	36.905	36.549	N	Sep-21	\$11,510.70	
30410-01-S16-WW1	WWMH 1-9-2	WWMH 1-9-3	MUSSELWHITE	TER	ROADWAY	150	67.190	OPVC	RR	37.658	36.985	N	Sep-21	\$12,642.90	
30410-01-S16-WW1	WWMH 1-9-1	WWMH 1-9-2	MUSSELWHITE	TER	ROADWAY	150	106.415	OPVC	RR	41.687	37.777	N	Sep-21	\$21,245.40	
30410-01-S16-WW1	WWMH 1-7B-1	WWMH 1-7	COGAR	TER	ROADWAY	150	33.461	OPVC	RR	40.167	39.788	N	Sep-21	\$8,302.80	
30410-01-S16-WW1	WWMH 1-7A-4	WWMH 1-7	COGAR	TER	ROADWAY	150	56.943	OPVC	RR	37.534	37.217	N	Sep-21	\$13,905.50	

As Built Datasheet (to accompany As Built Plans) WASTEWATER CONNECTION/SERVICE LINE

Chedworth Properties Ltd / Online Contractors Prepared by: S & L

 Developer/Contractor:
 Chedworth Properties Ltd / Online

 Development/Subdivision/Job:
 Greenhill Park

 Stage:
 Stage 16

Date: Mar-22

Plan ID	Upstr MH/ Asset	Dwnstr MH/ Asset ID	Property ID (Lot No. or Address)	Street Name	Street Type	Physical Location (where necessary)	Service Pipe Diam (mm)	Service Pipe Length (m)	Service Pipe Material	Invert Level At Private End (m) OR Depth (m)	Easting Coordinate	Northing Coordinate	Distance from left (LB) or right (RB) boundary (m)	Distance from front (FB) or back (BB) boundary (m)	Service Status	Install Date	Asset Value	Comments
30410-01-S16-WW1	-	WWMH 1-9-4	LOT 450	MUSSELWHITE	TERRACE	BERM	100	7.3	uPVC SN16	1.2	447185.683	702649.58	2.6RB	1.2FB	N	Sep-21	\$599	
30410-01-S16-WW1	WWMH 1-9-3	WWMH 1-9-4	LOT 451	MUSSELWHITE	TERRACE	BERM	100	7.3	uPVC SN16	1.2	447162.108	702640.688	0.7LB	1.3FB	N	Sep-21	\$453	
30410-01-S16-WW1	WWMH 1-9-3	WWMH 1-9-4	LOT 452	MUSSELWHITE	TERRACE	BERM	100	8.3	uPVC SN16	1.2	447159.493	702639.828	2.1RB	1.4FB	N	Sep-21	\$274	4.07M + 4.27M
30410-01-S16-WW1	WWMH 1-9-3	WWMH 1-9-4	LOT 453	MUSSELWHITE	TERRACE	BERM	100	7.9	uPVC SN16	1.2	447133.966	702630.627	0.8LB	1.8FB	N	Sep-21	\$453	
30410-01-S16-WW1	WWMH 1-9-3	WWMH 1-9-4	LOT 454	MUSSELWHITE	TERRACE	BERM	100	8.9	uPVC SN16	1.2	447131.028	702629.549	2.3RB	1.8FB	N	Sep-21	\$274	4.82M + 4.13M
30410-01-S16-WW1	-	WWMH 1-9-3	LOT 455	MUSSELWHITE	TERRACE	BERM	100	19.0	uPVC SN16	1.2	447112.236	702621.789	1.4LB	1.2FB	N	Sep-21	\$298	4.75M + 14.27M
30410-01-S16-WW1	-	WWMH 1-9-3	LOT 456	MUSSELWHITE	TERRACE	BERM	100	20.6	uPVC SN16	1.2	447110.054	702618.728	7.6LB	1.8FB	N	Sep-21	\$1,302	
30410-01-S16-WW1	WWMH 1-8	WWMH 1-9	LOT 457	EARP	CRES	BERM	100	9.7	uPVC SN16	1.2	447199.328	702584.574	0.9LB	1.3FB	N	Sep-21	\$580	
30410-01-S16-WW1	WWMH 1-8	WWMH 1-9	LOT 458	EARP	CRES	BERM	100	3.8	uPVC SN16	1.2	447200.192	702582.339	1.5RB	1.3FB	N	Sep-21	\$248	
30410-01-S16-WW1	WWMH 1-8	WWMH 1-9	LOT 459	EARP	CRES	BERM	100	10.5	uPVC SN16	1.2	447209.639	702556.982	1.5LB	1.4FB	N	Sep-21	\$269	4.23M + 6.17M
30410-01-S16-WW1	WWMH 1-8	WWMH 1-9	LOT 460	EARP	CRES	BERM	100	9.9	uPVC SN16	1.2	447210.647	702554.446	1.2RB	1.4FB	N	Sep-21	\$737	
30410-01-S16-WW1	WWMH 1-7	WWMH 1-8	LOT 461	EARP	CRES	BERM	100	11.2	uPVC SN16	1.2	447219.68	702528.974	1.7LB	1.9FB	N	Sep-21	\$253	3.88M + 7.33M
30410-01-S16-WW1	WWMH 1-7	WWMH 1-8	LOT 462	EARP	CRES	BERM	100	9.9	uPVC SN16	1.2	447221.041	1.2FB	1.0RB	1.5FB	N	Sep-21	\$590	
30410-01-S16-WW1	WWMH 1-7	WWMH 1-8	LOT 463	EARP	CRES	BERM	100	10.5	uPVC SN16	1.2	447225.763	702512.273	1.0RB	2.2FB	N	Sep-21	\$622	
30410-01-S16-WW1	WWMH 1-7B-1	WWMH 21.2	LOT 464	COGAR	TERRACE	BERM	100	7.5	uPVC SN16	1.2	447209.22	702481.875	0.6LB	1.4FB	N	Sep-21	\$216	3.18M + 4.3M
30410-01-S16-WW1	WWMH 1-7B-1	WWMH 21.2	LOT 465	COGAR	TERRACE	BERM	100	9.1	uPVC SN16	1.2	447205.749	702480.558	3.1RB	1.4FB	N	Sep-21	\$762	
30410-01-S16-WW1	WWMH 1-9-1	WWMH 1-9-2	LOT 466	MUSSELWHITE	TERRACE	BERM	100	93	uPVC SN16	1.2	447182.116	702511.209	1.6LB	2.6FB	N	Sep-21	\$559	
30410-01-S16-WW1	WWMH 1-9-1	WWMH 1-9-2	LOT 467	MUSSELWHITE	TERRACE	BERM	100	9.0	uPVC SN16	1.2	447175.761	702523.806	2.6LB	1.1FB	N	Sep-21	\$286	4.47M + 4.56M
30410-01-S16-WW1	WWMH 1-9-1	WWMH 1-9-2	LOT 468	MUSSELWHITE	TERRACE	BERM	100	8.2	uPVC SN16	1.2	447174.932	702526.97	0.7RB	1.5FB	N	Sep-21	\$501	
30410-01-S16-WW1	WWMH 1-9-1	WWMH 1-9-2	LOT 469	MUSSELWHITE	TERRACE	BERM	100	10.1	uPVC SN16	1.2	447166.374	702552.534	2.4LB	2.5FB	N	Sep-21	\$317	5.09M + 5.02M
30410-01-S16-WW1	WWMH 1-9-1	WWMH 1-9-2	LOT 470	MUSSELWHITE	TERRACE	BERM	100	8.9	uPVC SN16	1.2	447164.849	702555.385	0.8RB	2.1FB	N	Sep-21	\$537	
30410-01-S16-WW1	WWMH 1-9-2	WWMH 1-9-3	LOT 471	MUSSELWHITE	TERRACE	BERM	100	8.4	uPVC SN16	1.2	447154.441	702581.67	0.9LB	1.7FB	N	Sep-21	\$511	
30410-01-S16-WW1	WWMH 1-9-1	WWMH 1-9-2	LOT 472	MUSSELWHITE	TERRACE	BERM	100	9.5	uPVC SN16	1.2	447158.492	702520.708	1.0RB	1.0FB	N	Sep-21	\$569	
30410-01-S16-WW1	WWMH 1-9-1	WWMH 1-9-2	LOT 473	MUSSELWHITE	TERRACE	BERM	100	10.6	uPVC SN16	1.2	447168.146	702492.078	0.8LB	2.1FB	N	Sep-21	\$627	
30410-01-S16-WW1	WWMH 1-9-1	WWMH 1-9-2	LOT 474	MUSSELWHITE	TERRACE	BERM	100	11.3	uPVC SN16	1.2	447169.649	702489.214	2.4RB	1.7FB	N	Sep-21	\$285	4.48M + 6.86M
30410-01-S16-WW1	WWMH 1-9-1	WWMH 1-9-2	LOT 475	MUSSELWHITE	TERRACE	BERM	100	11.9	uPVC SN16	1.2	447176.983	702469.252	3.3LB	1.9FB	N	Sep-21	\$301	4.8M + 7.1M
30410-01-S16-WW1	WWMH 1-9-1	WWMH 1-9-2	LOT 476	MUSSELWHITE	TERRACE	BERM	100	10.5	uPVC SN16	1.2	447178.094	702465.951	0.2RB	2.0FB	N	Sep-21	\$621	
30410-01-S16-WW1	WWMH 1-9-1	WWMH 1-9-2	LOT 477	MUSSELWHITE	TERRACE	BERM	100	9.9	uPVC SN16	1.2	447184.294	702452.544	0.9RB	1.0FB	N	Sep-21	\$737	
30410-01-S16-WW1	WWMH 1-7B-1	WWMH 1-7	LOT 478	COGAR	TERRACE	BERM	100	9.4	uPVC SN16	1.2	447217.15	702468.384	2.7LB	1.1FB	N	Sep-21	\$710	
30410-01-S16-WW1	WWMH 1-6	WWMH 1-7	LOT 479	EARP	CRES	BERM	100	10.7	uPVC SN16	1.2	447244.614	702464.001	2.5LB	1.6FB	N	Sep-21	\$317	5.1M + 5.95M
30410-01-S16-WW1	WWMH 1-6	WWMH 1-7	LOT 480	EARP	CRES	BERM	100	7.5	uPVC SN16	1.2	447259.642	702471.315	1.9RB	2.1FB	N	Sep-21	\$633	4.67M + 2.78M
30410-01-S16-WW1	WWMH 1-9-2	WWMH 1-9-3	LOT 8001	MUSSELWHITE	TERRACE	BERM	100	10.0	uPVC SN16	1.2	447124.696	702608.134	0.7LB	1.7FB	N	Sep-21	\$400	
30410-01-S16-WW1	WWMH 1-9-2	WWMH 1-9-3	LOT 8002	MUSSELWHITE	TERRACE	BERM	100	10.8	uPVC SN16	1.2	447125.579	702605.743	1.8LB	1.7FB	N	Sep-21	\$258	4.17M + 6.65M
30410-01-S16-WW1	WWMH 1-9-2	WWMH 1-9-3	LOT 8003	MUSSELWHITE	TERRACE	BERM	100	11.0	uPVC SN16	1.2	447129.238	702596.749	2.5LB	1.5FB	N	Sep-21	\$301	4.83M + 6.15M
30410-01-S16-WW1	WWMH 1-9-2	WWMH 1-9-3	LOT 8004	MUSSELWHITE	TERRACE	BERM	100	9.8	uPVC SN16	1.2	447130.485	702593.791	0.7RB	1.4FB	N	Sep-21	\$585	
30410-01-S16-WW1	WWMH 1-9-2	WWMH 1-9-3	LOT 8005	MUSSELWHITE	TERRACE	BERM	100	10.3	uPVC SN16	1.2	447134.663	702581.154	1.0LB	1.9FB	N	Sep-21	\$611	
30410-01-S16-WW1	WWMH 1-9-2	WWMH 1-9-3	LOT 8006	MUSSELWHITE	TERRACE	BERM	100	10.6	uPVC SN16	1.2	447136.631	702578.558	2.2RB	1.0FB	N	Sep-21	\$290	4.62M + 5.95M
30410-01-S16-WW1	WWMH 1-9-2	WWMH 1-9-3	LOT 8007	MUSSELWHITE	TERRACE	BERM	100	11.2	uPVC SN16	1.2	447139.747	702568.572	2.4LB	1.6FB	N	Sep-21	\$311	4.95M + 6.28M

As Built Datasheet (to accompany As Built Plans) WASTEWATER CONNECTION/SERVICE LINE Wastewater Connection/Service Line

 Developer/Contractor:
 Chedworth Properties Ltd / Online Contractors
 Prepared by:
 S & L

 Development/Subdivision/Job:
 Greenhill Park
 Date:
 Mar-22

 Stage:
 Stage 16

Plan ID	Upstr MH/ Asset ID	Dwnstr MH/ Asset ID	Property ID (Lot No. or Address)	Street Name	Street Type	Physical Location (where necessary)	Service Pipe Diam (mm)	Service Pipe Length (m)	Service Pipe Material	Invert Level At Private End (m) OR Depth (m)	Easting Coordinate	Northing Coordinate	Distance from left (LB) or right (RB) boundary (m)	Distance from front (FB) or back (BB) boundary (m)	Service Status	Install Date	Asset Value	Comments
30410-01-S16-WW1	WWMH 1-9-2	WWMH 1-9-3	LOT 8008	MUSSELWHITE	TERRACE	BERM	100	10.1	uPVC SN16	1.2	447141.177	702565.001	1.4RB	1.5FB	N	Sep-21	\$601	
30410-01-S16-WW1	WWMH 1-9-2	WWMH 1-9-3	LOT 8009	MUSSELWHITE	TERRACE	BERM	100	11.4	uPVC SN16	1.2	447143.742	702553.948	1.3LB	3.1FB	N	Sep-21	\$816	
30410-01-S16-WW1	WWMH 1-9-2	WWMH 1-9-3	LOT 8010	MUSSELWHITE	TERRACE	BERM	100	13.0	uPVC SN16	1.2	447146.012	702549.715	3.5RB	2.4FB	N	Sep-21	\$396	6.64M + 6.32M
30410-01-S16-WW1	WWMH 1-9-1	WWMH 1-9-2	LOT 8011	MUSSELWHITE	TERRACE	BERM	100	10.2	uPVC SN16	1.2	447148.365	702545.346	1.4RB	1.8FB	N	Sep-21	\$606	
30410-01-S16-WW1	WWMH 1-9-1	WWMH 1-9-2	LOT 8012	MUSSELWHITE	TERRACE	BERM	100	11.2	uPVC SN16	1.2	447148.216	702616.467	1.9LB	1.4FB	N	Sep-21	\$327	5.3M + 5.86M
30410-01-S16-WW1	WWMH 1-9-3	WWMH 1-9-4	LOT 8013	MUSSELWHITE	TERRACE	BERM	100	10.1	uPVC SN16	1.2	447150.708	702617.724	0.9RB	1.1FB	N	Sep-21	\$606	
30410-01-S16-WW1	WWMH 1-9-3	WWMH 1-9-4	LOT 8014	MUSSELWHITE	TERRACE	BERM	100	10.1	uPVC SN16	1.2	447161.486	702621.864	0.5LB	1.0FB	N	Sep-21	\$601	
30410-01-S16-WW1	WWMH 1-9-3	WWMH 1-9-4	LOT 8015	MUSSELWHITE	TERRACE	BERM	100	10.6	uPVC SN16	1.2	447163.655	702622.796	1.8RB	0.9FB	N	Sep-21	\$269	4.2M + 6.36M
30410-01-S16-WW1	WWMH 1-9-3	WWMH 1-9-4	LOT 8016	MUSSELWHITE	TERRACE	BERM	100	10.3	uPVC SN16	1.2	447173.334	702626.149	0.9LB	1.2FB	N	Sep-21	\$611	
30410-01-S16-WW1	WWMH 1-9-3	WWMH 1-9-4	LOT 8017	MUSSELWHITE	TERRACE	BERM	100	11.1	uPVC SN16	1.2	447176.129	702627.334	2.1RB	1.1FB	N	Sep-21	\$285	4.47M + 6.66M
30410-01-S16-WW1	WWMH 1-7A-4	WWMH 1-7	LOT 8018	COGAR	TERRACE	BERM	100	6.3	uPVC SN16	1.2	447256.36	702499.838	0.9RB	1.5FB	N	Sep-21	\$400	
30410-01-S16-WW1	WWMH 1-7A-4	WWMH 1-7	LOT 8019	COGAR	TERRACE	BERM	100	7.2	uPVC SN16	1.2	447259.144	702500.627	2.0LB	1.3FB	N	Sep-21	\$258	4.01M + 3.23M
30410-01-S16-WW1	WWMH 1-7A-4	WWMH 1-7	LOT 8020	COGAR	TERRACE	BERM	100	7.5	uPVC SN16	1.2	447267.07	702504.333	0.9RB	1.9FB	N	Sep-21	\$506	2.42M + 2.66 + 2.42M
30410-01-S16-WW1	WWMH 1-7A-4	WWMH 1-7	LOT 8021	COGAR	TERRACE	BERM	100	4.7	uPVC SN16	1.2	447272.12	702506.373	1.3RB	2.1FB	N	Sep-21	\$295	
30410-01-S16-WW1	WWMH 1-7A-4	WWMH 1-7	LOT 8022	COGAR	TERRACE	BERM	100	6.3	uPVC SN16	1.2	447276.412	702507.363	2.7RB	1.5FB	N	Sep-21	\$400	·
30410-01-S16-WW1	WWMH 1-7A-4	WWMH 1-7	LOT 8023	COGAR	TERRACE	BERM	100	6.7	uPVC SN16	1.2	447282.326	702510.023	2.0RB	1.8FB	N	Sep-21	\$422	·
30410-01-S16-WW1	WWMH 1-7A-4	WWMH 1-7	LOT 8024	COGAR	TERRACE	BERM	100	7.6	uPVC SN16	1.2	447285.175	702510.56	1.3LB	2.0FB	N	Sep-21	\$295	5.28M + 2.31M
30410-01-S16-WW1	WWMH 1-7A-4	WWMH 1-7	LOT 8117	COGAR	TERRACE	BERM	100	6.5	uPVC SN16	1.2	447296.514	702515.198	2.4RB	1.7FB	N	Sep-21	\$557	

As Built Datasheet (to accompany As Built Plans) STORMWATER MANHOLES

Waikato Regional ITS

Form Version 1 - July 2017

Developer/Contractor:

Chedworth Properties Ltd / Online Contractors

Prepared by: S & L

Development/Subdivision/Job: Stage:

Greenhill Park Stage 16

Mar-22

(Centre)

Date:

(Centre) (Centre)

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Plan ID	Manhole ID	Property ID (Lot No. or Address)	Street Name	Street Type	Lid Level (m)	Invert Level (m)	Width/Diam (mm)	Easting Coordinate	Northing Coordinate	Service Status	Install Date	Asset Value	Comments
30410-01-S16-SW1	SWMH A3	LOT 450	MUSSELWHITE	TERRACE	38.23	35.74	1050	447183.65	702638.84	N	Nov-20	\$2,120.10	
30410-01-S16-SW1	SWMH A2	LOT 454	MUSSELWHITE	TERRACE	38.47	36.33	1050	447130.55	702620.92	N	Nov-20	\$2,120.10	
30410-01-S16-SW1	SWMH A1	LOT 456	N/A	N/A	TBC	TBC	1050	447098.52	702607.15	N	Nov-20	\$2,120.10	Located in Carrs Park
30410-01-S16-SW1	SWMH A2-3	LOT 8005	MUSSELWHITE	TERRACE	39.38	37.47	1050	447141.67	702585.82	N	Jun-21	\$2,120.10	
30410-01-S16-SW1	SWMH A2-2	LOT 468	MUSSELWHITE	TERRACE	41.48	39.17	1050	447161.86	702532.07	N	Jun-21	\$2,120.10	
30410-01-S16-SW1	SWMH A2-1	LOT 474	MUSSELWHITE	TERRACE	42.65	41.07	1050	447179.83	702484.59	N	Jun-21	\$1,942.50	
30410-01-S16-SW1	SWMH B5	N/A	N/A	N/A	38.50	TBC	1050	447235.18	702549.80	N	Jun-21	\$1,942.50	Located in Balance Lot - Future Lot 302
30410-01-S16-SW1	SWMH B4	LOT 460	EARP	CRESCENT	39.19	35.94	1050	447222.23	702545.15	N	Jun-21	\$4,118.10	
30410-01-S16-SW1	SWMH B3	LOT 462	EARP	CRESCENT	40.25	36.81	1050	447232.48	702517.52	N	Jun-21	\$4,118.10	
30410-01-S16-SW1	SWMH B2	LOT 463	EARP	CRESCENT	41.35	38.68	1050	447244.53	702486.29	N	Jun-21	\$4,118.10	
30410-01-S16-SW1	SWMH B1	LOT 478	COGAR	TERRACE	43.01	41.29	1050	447195.27	702467.65	N	Jun-21	\$2,120.10	
30410-01-S16-SW1	SWMH B3-1	N/A	N/A	N/A	39.34	37.75	1050	447280.57	702535.34	N	Jun-21	\$1,942.50	Located in Balance Lot - Future Lot 303
30410-01-S16-SW1	SWMH B4-1	LOT 457	EARP	CRESCENT	38.62	36.93	1050	447201.76	702599.65	N	Jun-21	\$2,120.10	
30410-01-S16-SW1	SWMH D7	N/A	N/A	N/A	38.64	35.46	1050	447277.12	702565.73	N	Jun-21		Located in Balance Lot - Future Lot 302
30410-01-S16-SW1	SWMH D6	N/A	N/A	N/A	38.70	35.64	1050	447289.05	702569.74	N	Jun-21		Located in Balance Lot - Future Road
30410-01-S16-SW1	SWMH D6-6	N/A	N/A	N/A	38.27	35.77	1050	447275.12	702602.29	N	Jun-21	\$2,120.10	Located in Balance Lot - Future Road
30410-01-S16-SW1	SWMH D6-5	N/A	N/A	N/A	38.25	35.83	1050	447259.67	702633.79	N	Jun-21	\$2,120.10	Located in Balance Lot - Future Road
30410-01-S16-SW1	SWMH D6-4	LOT 301	CHILMAN	TERRACE	38.00	36.11	1050	447244.65	702665.06	N	Jun-21	\$2,120.10	
30410-01-S16-SW1	SWMH D6-3	LOT 301	CHILMAN	TERRACE	38.10	36.18	1050	447246.26	702671.86	N	Jun-21	\$2,120.10	
30410-01-S16-SW1	SWMH D6-4-1	LOT 301	CHILMAN	TERRACE	37.80	36.41	1050	447230.27	702695.24	N	Jun-21	\$2,120.10	
30410-01-S16-SW1	SWMH E1	N/A	N/A	N/A	37.56	TBC	1050	447233.65	702618.66	N	Jun-21	\$2,963.70	

As Built Datasheet (to accompany As Built Plans) STORMWATER PIPELINES

Waikato Regional ITS

Form Version 1 - July 2017

Developer/Contractor: Development/Subdivision/Job:

30410-01-S16-SW1

30410-01-S16-SW1

30410-01-S16-SW1

30410-01-S16-SW1

30410-01-S16-SW1

SWMH D6-5

SWMH D6-4

SWMH D6-3

SWMH E1

SWMH D6-6

N/A

N/A

PRIVATE PROPERTY

Stage:

Chedworth Properties Ltd / Online Contractors

Prepared by:

Mar-22 Greenhill Park Date Stage 16 Invert Upstr MH/ Asset | Dwnstr MH/ Asset Level Service Plan ID Street Name Street Type Physical Location (where necessary) Diameter Pipe Material Joint Type Level Upst Install Date Asset Value Comments Lenath Dwnstr Status (m) (m) 30410-01-S16-SW1 SWMH A3 SWOUT A4 MUSSELWHITE TERRACE ROADWAY / RESERVE 525 19.7 RC RR 35.736 34.914 N Nov-21 \$2,815 SWMH A3 MUSSELWHITE TERRACE ROADWAY 525 36.327 \$8,225 30410-01-S16-SW1 SWMH A2 57.6 RC RR 35.826 N Nov-21 SWMH A1 PRIVATE PROPERTY N 30410-01-S16-SW1 SWMH A2 N/A N/A 450 33.2 RC RR Nov-21 \$4,452 Located (mostly) in Lot 811 & Lot 456 Nov-21 \$6,354.50 30410-01-S16-SW1 SWMH A2-3 SWMH A2 MUSSELWHITE TERRACE ROADWAY 375 34.8 RC RR 37.472 36.411 N Nov-21 30410-01-S16-SW1 SWMH A2-2 SWMH A2-3 MUSSELWHITE TERRACE ROADWAY 375 57.4 RC RR 39.172 37.549 Ν Nov-21 \$10,481 30410-01-S16-SW1 SWMH A2-1 SWMH A2-2 MUSSELWHITE TERRACE ROADWAY 300 50.8 uPVC SN16 41.074 39.317 Ν Nov-21 \$8,606 SWOUT B6 EARP CRESCENT ROADWAY / PRIVATE PROPERTY 450 30410-01-S16-SW1 SWMH B5 6.5 RC RR 35.399 35.210 N Nov-21 \$872 CRESCENT 30410-01-S16-SW1 SWMH B4 SWMH B5 EARP BERM 450 13.7 RC RR 35 938 35.764 Ν Nov-21 \$1,877.40 SWMH B3 30410-01-S16-SW1 SWMH B4 EARP CRESCENT ROADWAY 375 RC RR N 29.5 36.805 36.222 Nov-21

\$3,624.00 30410-01-S16-SW1 SWMH B2 SWMH B3 EARP CRESCENT ROADWAY 300 33.5 uPVC SN16 38.677 37,481 Ν Nov-21 \$3,986,40 30410-01-S16-SW1 SWMH B1 SWMH B2 COGAR TERRACE ROADWAY 225 uPVC SN16 41.291 Ν 52.7 39.167 Nov-21 \$6,281.60 \$6,160.80 Loacted in Balance Lot - Future Lot 303 30410-01-S16-SW1 SWMH B3-1 SWMH B3 N/A N/A PRIVATE PROPERTY 300 51.3 uPVC 37.746 37.307 Ν Nov-21 30410-01-S16-SW1 SWMH B4-1 SWMH B4 EARP CRESCENT ROADWAY 300 58.2 uPVC SN16 36.932 36.379 Ν Nov-21 \$7,006.40 450 17.1 N 30410-01-S16-SW1 SWMH D7 SWOUT D8 N/A PRIVATE PROPERTY RR 35,435 35.200 N/A RC Nov-21 \$2,411.64 30410-01-S16-SW1 SWMH D6 SWMH D7 N/A N/A PRIVATE PROPERTY 375 12.6 RC RR 35.639 35.557 N Nov-21 \$1,473.78 30410-01-S16-SW1 SWMH D6-6 SWMH D6 N/A N/A PRIVATE PROPERTY 375 34.4 RC RR 35.678 N 35.772 Nov-21

375

35.1

SWMH D6-5 CHILMAN TERRACE ROADWAY 375 34.7 RC RR 36.112 35.923 Ν Nov-21 \$4,689.30 SWMH D6-4 CHILMAN TERRACE ROADWAY 375 7.0 RC RR 36.190 36.175 Ν Nov-21 \$937.86 SWMH D6-4-1 SWMH D6-4 CHILMAN TERRACE ROADWAY 375 RC RR 36.414 36.190 N Nov-21 33.4 \$4,689.30 SWOUT E2 EARP CRESCENT ROADWAY RR Ν 525 27.7 RC 35.135 34.906 Nov-21 \$4,426.80

RC

RR

35.833

35.776

N

Nov-21

\$4.689.30

\$4,689.30

Chedworth Properties Ltd / Online Contractors Developer/Contractor: Development/Subdivision/Job: Greenhill Park

Stage 16

Prepared by: S & L Mar-22

Date:

Stage:

Plan ID	Upstr MH/ Asset ID	Dwnstr MH/ Asset ID	Property ID (Lot No. or Address)	Street Name	Street Type	Physical Location (where necessary)	Service Pipe Diam (mm)	Service Pipe Length (m)	Service Pipe Material	Invert Level At Private End (m) OR Depth (m)	Easting Coordinate	Northing Coordinate	Distance from left (LB) or righ (RB) boundary (m)	Distance from front t (FB) or back (BB) boundary (m)	Service Status	Install Date	Asset Value	Comments
30410-01-S16-SW1	-	SWMH A3	LOT 450	MUSSELWHITE	TERRACE	BERM	100/150	10.3	uPVC SN16	1.2	447176.78	702645.60	1.2LB	0.7FB	N	Nov-21	\$263	PIPE SIZE: 3.8m = 100mm; 6.5m = 150mm
30410-01-S16-SW1	-	SWMH A3	LOT 451	MUSSELWHITE	TERRACE	BERM	100/150	11.8	uPVC SN16	1.2	447174.40	702645.26	1.2RB	1.2FB	N	Nov-21	\$1,227	PIPE SIZE: 5.3m = 100mm; 6.5m = 150mm
30410-01-S16-SW1	SWMH A2	SWMH A3	LOT 452	MUSSELWHITE	TERRACE	BERM	100/150	9.2	uPVC SN16	1.2	447148.07	702635.23	0.6LB	0.9FB	N	Nov-21	\$1,028	PIPE SIZE: 3.8m = 100mm; 5.4m = 150mm
30410-01-S16-SW1	SWMH A2	SWMH A3	LOT 453	MUSSELWHITE	TERRACE	BERM	100	4.6	uPVC SN16	1.2	447145.54	702634.18	2.1RB	1.0FB	N	Nov-21	\$263	
30410-01-S16-SW1	-	SWMH A2	LOT 454	MUSSELWHITE	TERRACE	BERM	100/150	11.3	uPVC SN16	1.2	447123.77	702626.69	1.9LB	1.7FB	N	Nov-21	\$311	PIPE SIZE: 4.7m = 100mm; 6.6m = 150mm
30410-01-S16-SW1	-	SWMH A2	LOT 455	MUSSELWHITE	TERRACE	BERM	100	10.8	uPVC SN16	1.2	447120.55	702624.28	2.0LB	0.6FB	N	Nov-21	\$1,196	PIPE SIZE: 4.2m = 100mm; 6.6m = 150mm
30410-01-S16-SW1	SWMH A1	SWMH A2	LOT 456	MUSSELWHITE	TERRACE	BERM	100	2.6	uPVC SN16	1.2	447111.89	702614.79	3.3LB	1.4FB	N	Nov-21	\$199	
30410-01-S16-SW1	-	SWMH B4-1	LOT 457	EARP	CRESCENT	BERM	100	7.8	uPVC SN16	1.2	447194.40	702597.10	0.6RB	1.5FB	N	Nov-21	\$475	
30410-01-S16-SW1	SWMH B4-1	SWMH B4	LOT 458	EARP	CRESCENT	BERM	100	7.1	uPVC SN16	1.2	447204.38	702571.68	2.1LB	1.2FB	N	Nov-21	\$300	PIPE SIZE: 4.5m = 100mm; 4.1m = 150mm
30410-01-S16-SW1	SWMH B4-1	SWMH B4	LOT 459	EARP	CRESCENT	BERM	100/150	3.9	uPVC SN16	1.2	447204.95	702568.56	1.0RB	1.7FB	N	Nov-21	\$902	
30410-01-S16-SW1	-	SWMH B4	LOT 460	EARP	CRESCENT	BERM	100	4.9	uPVC SN16	1.2	447214.67	702543.29	1.9LB	1.6FB	N	Nov-21	\$321	
30410-01-S16-SW1	=	SWMH B4	LOT 461	EARP	CRESCENT	BERM	100/150	8.3	uPVC SN16	1.2	447215.77	702540.08	1.5RB	1.7FB	N	Nov-21	\$933	PIPE SIZE: 4.9m = 100mm; 3.4m = 150mm
30410-01-S16-SW1	SWMH B3	SWMH B4	LOT 462	EARP	CRESCENT	BERM	150	7.3	uPVC SN16	1.2	447221.80	702525.43	2.3RB	1.2FB	N	Nov-21	\$448	
30410-01-S16-SW1	-	-	LOT 463	EARP	CRESCENT	BERM	150	8.1	uPVC SN16	1.2	447226.90	702511.62	2.1RB	1.3FB	N	Nov-21	\$491	
30410-01-S16-SW1	SWMH B1	SWMH B2	LOT 464	COGAR	TERRACE	BERM	150	8.3	uPVC SN16	1.2	447218.94	702485.42	1.0RB	1.3FB	N	Nov-21	\$501	
30410-01-S16-SW1	SWMH B1	SWMH B2	LOT 465	COGAR	TERRACE	BERM	150	8.3	uPVC SN16	1.2	447207.36	702481.03	1.4RB	1.2FB	N	Nov-21	\$496	
30410-01-S16-SW1	SWMH A2-1	SWMH A2-2	LOT 466	MUSSELWHITE	TERRACE	BERM	100/150	11.4	uPVC SN16	1.2	447181.03	702510.28	2.1LB	1.3FB	N	Nov-21	\$289	PIPE SIZE: 4.3m = 100mm; 7.1m = 150mm
30410-01-S16-SW1	SWMH A2-1	SWMH A2-2	LOT 467	MUSSELWHITE	TERRACE	BERM	100	3.4	uPVC SN16	1.2	447180.22	702513.23	1.0RB	1.6FB	N	Nov-21	\$1,164	
30410-01-S16-SW1	SWMH A2-2	SWMH A2-3	LOT 468	MUSSELWHITE	TERRACE	BERM	100	11.5	uPVC SN16	1.2	447170.60	702538.50	2.0LB	1.5FB	N	Nov-21	\$385	PIPE SIZE: 6.1m = 100mm; 5.4m = 150mm
30410-01-S16-SW1	SWMH A2-2	SWMH A2-3	LOT 469	MUSSELWHITE	TERRACE	BERM	100/150	5.2	uPVC SN16	1.2	447169.67	702541.41	1.1RB	1.7FB	N	Nov-21	\$1,175	
30410-01-S16-SW1	SWMH A2-2	SWMH A2-3	LOT 470	MUSSELWHITE	TERRACE	BERM	100	6.9	uPVC SN16	1.2	447160.55	702565.87	2.8LB	1.8FB	N	Nov-21	\$427	
30410-01-S16-SW1	SWMH A2-2	SWMH A2-3	LOT 471	MUSSELWHITE	TERRACE	BERM	100	10.6	uPVC SN16	1.2	447158.88	702570.17	1.8RB	1.7FB	N	Nov-21	\$1,175	PIPE SIZE: 5.1m = 100mm; 5.5m = 150mm
30410-01-S16-SW1	SWMH A2-1	SWMH A2-2	LOT 472	MUSSELWHITE	TERRACE	BERM	100/150	7.7	uPVC SN16	1.2	447163.44	702505.87	0.5LB	1.5FB	N	Nov-21	\$870	PIPE SIZE: 3.6m = 100mm; 4.1m = 150mm
30410-01-S16-SW1	SWMH A2-1	SWMH A2-2	LOT 473	MUSSELWHITE	TERRACE	BERM	100	4.2	uPVC SN16	1.2	447164.48	702503.79	2.0RB	1.4FB	N	Nov-21	\$284	
30410-01-S16-SW1	-	SWMH A2-1	LOT 474	MUSSELWHITE	TERRACE	BERM	100/150	9.1	uPVC SN16	1.2	447174.25	702477.98	0.4LB	1.4FB	N	Nov-21	\$226	PIPE SIZE: 3.1m = 100mm; 6.0m = 150mm
30410-01-S16-SW1	-	SWMH A2-1	LOT 475	MUSSELWHITE	TERRACE	BERM	100	3.7	uPVC SN16	1.2	447175.34	702476.03	1.8RB	1.0FB	N	Nov-21	\$1,080	
30410-01-S16-SW1	_	SWMH B1	LOT 476	MUSSELWHITE	TERRACE	BERM	100/150	18.5	uPVC SN16	1.2	447182.64	702454.12	1.1LB	2.0FB	N	Nov-21	\$279	PIPE SIZE: 4.1m = 100mm: 14.4m = 150mm
30410-01-S16-SW1	_	SWMH B1	LOT 477	MUSSELWHITE	TERRACE	BERM	100	4.1	uPVC SN16	1.2	447184.45	702451.42	2.0RB	1.2FB	N	Nov-21	\$2,109	7 11 2 GIZZ: 11111 - 10011111, 7 11 1111 - 10011111
30410-01-S16-SW1	SWMH B1	SWMH B2	LOT 478	COGAR	TERRACE	BERM	150	7.1	uPVC SN16	1.2	447218.59	702468.83	1.2LB	1.1FB	N	Nov-21	\$438	
30410-01-S16-SW1	- OWWITE!	SWMH B2	LOT 479	COGAR	TERRACE	BERM	150	12.4	uPVC SN16	1.2	447241.59	702474.22	4.2RB	0.8FB	N	Nov-21	\$719	
30410-01-S16-SW1	_	SWMH B2	LOT 480	COGAR	TERRACE	BERM	150	12.1	uPVC SN16	1.2	447255.67	702474.22	2.2LB	2.0FB	N	Nov-21	\$703	
30410-01-S16-SW1	SWMH A1	SWMH A2	LOT 8001	MUSSELWHITE	TERRACE	BERM	150	2.6	uPVC SN16	1.2	447123.44	702613.47	2.0RB	1.0FB	N	Nov-21	\$199	
30410-01-S16-SW1	SWMH A2-3	SWMH A2	LOT 8002	MUSSELWHITE	TERRACE	BERM	100/150	8.9	uPVC SN16	1.2	447126.88	702603.41	2.5LB	1.3FB	N	Nov-21	\$284	PIPE SIZE: 4.2m = 100mm: 4.7m = 150mm
30410-01-S16-SW1	SWMH A2-3	SWMH A2	LOT 8003	MUSSELWHITE	TERRACE	BERM	100/130	3.3	uPVC SN16	1.2	447127.90	702600.52	0.5RB	1.4FB	N	Nov-21	\$902	FIFE 3/2E. 4.2III = 100IIIII, 4.7III = 130IIIII
30410-01-S16-SW1	SWMH A2-3	SWMH A2	LOT 8004			BERM		7.9			447132.09		******		N		\$902	PIPE SIZE: 3.8m = 100mm: 4.1m = 150mm
30410-01-S16-SW1	SWMH A2-3	SWMH A2	LOT 8004	MUSSELWHITE	TERRACE	BERM	100/150	5.7	uPVC SN16 uPVC SN16	1.2	447132.09	702588.96 702585.23	1.2LB 2.8RB	1.6FB 1.6FB	N N	Nov-21 Nov-21	\$364	1 11 2 312E. 3.011 = 10011111, 4.1111 = 130MM
30410-01-S16-SW1	SWMH A2-3	SWMH A2-3	LOT 8005		TERRACE	BERM		9.0	uPVC SN16	1.2	447133.46		2.3LB	1.6FB	N N	Nov-21	\$364	PIPE SIZE: 4.9m = 100mm: 4.1m = 150mm
	SWMH A2-2 SWMH A2-2			MUSSELWHITE	TERRACE	BERM	100		uPVC SN16		447137.04	702574.96	0.8RB		**		*-	FIFE SIZE. 4.9III = 100mm; 4.1m = 150mm
30410-01-S16-SW1		SWMH A2-3	LOT 8007	MUSSELWHITE			100	4.8		1.2		702571.76		2.6FB	N	Nov-21	\$996	DIDE DITE OF ASSESSED.
30410-01-S16-SW1	SWMH A2-2	SWMH A2-3	LOT 8008	MUSSELWHITE	TERRACE	BERM	100/150	7.6	uPVC SN16	1.2	447142.92	702561.34	1.7LB	1.4FB	N	Nov-21	\$860	PIPE SIZE: 3.6m = 100mm; 4.0m = 150mm
30410-01-S16-SW1	SWMH A2-2	SWMH A2-3	LOT 8009	MUSSELWHITE	TERRACE	BERM	100	5.2	uPVC SN16	1.2	447144.31	702557.71	2.4RB	1.2FB	N	Nov-21	\$337	
30410-01-S16-SW1	SWMH A2-2	SWMH A2-3	LOT 8010	MUSSELWHITE	TERRACE	BERM	100/150	8.3	uPVC SN16	1.2	447147.29	702547.10	0.6LB	2.2FB	N	Nov-21	\$944	PIPE SIZE: 3.9m = 100mm; 4.4m = 150mm

As Built Datasheet (to accompany As Built Plans) STORMWATER CONNECTION/SERVICE LINE

Waikato Regional ITS

Form Version 1 - July 2017

Developer/Contractor:

Chedworth Properties Ltd / Online Contractors Greenhill Park

Prepared by: S & L Date: Mar-22

Development/Subdivision/Job:

Stage:

Stage 16

Plan ID	Upstr MH/ Asset ID	Dwnstr MH/ Asset ID	Property ID (Lot No. or Address)	Street Name	Street Type	Physical Location (where necessary)	Service Pipe Diam (mm)	Service Pipe Length (m)	Service Pipe Material	Invert Level At Private End (m) OR Depth (m)	Easting Coordinate	Northing Coordinate	Distance from left (LB) or right (RB) boundary (m)	Distance from front (FB) or back (BB) boundary (m)	Service Status	Install Date	Asset Value	Comments
30410-01-S16-SW1	SWMH A2-2	SWMH A2-3	LOT 8011	MUSSELWHITE	TERRACE	BERM	100	4.7	uPVC SN16	1.2	447149.15	702544.15	2.8RB	1.5FB	N	Nov-21	\$311	
30410-01-S16-SW1	SWMH A2	SWMH A3	LOT 8012	MUSSELWHITE	TERRACE	BERM	150	8.4	uPVC SN16	1.2	447148.61	702616.67	1.4LB	1.3FB	N	Nov-21	\$507	
30410-01-S16-SW1	SWMH A2	SWMH A3	LOT 8013	MUSSELWHITE	TERRACE	BERM	100/150	8.9	uPVC SN16	1.2	447154.40	702619.25	1.6LB	1.0FB	N	Nov-21	\$284	PIPE SIZE: 4.2m = 100mm; 4.7m = 150mm
30410-01-S16-SW1	SWMH A2	SWMH A3	LOT 8014	MUSSELWHITE	TERRACE	BERM	150	4.3	uPVC SN16	1.2	447157.47	702619.36	1.3RB	2.0FB	N	Nov-21	\$1,017	
30410-01-S16-SW1	SWMH A2	SWMH A3	LOT 8015	MUSSELWHITE	TERRACE	BERM	100/150	9.4	uPVC SN16	1.2	447166.48	702623.45	1.8LB	1.3FB	N	Nov-21	\$332	PIPE SIZE: 5.1m = 100mm; 4.3m = 150mm
30410-01-S16-SW1	SWMH A2	SWMH A3	LOT 8016	MUSSELWHITE	TERRACE	BERM	100	4.6	uPVC SN16	1.2	447169.53	702624.07	1.3RB	1.8FB	N	Nov-21	\$996	
30410-01-S16-SW1	SWMH A2	SWMH A3	LOT 8017	MUSSELWHITE	TERRACE	BERM	150	9.9	uPVC SN16	1.2	447182.15	702629.01	1.7LB	1.7FB	N	Nov-21	\$586	
30410-01-S16-SW1	SWMH B3-1	SWMH B3	LOT 8018	COGAR	TERRACE	BERM	150	2.2	uPVC SN16	1.2	447241.12	702518.34	1.3LB	0.8BB	N	Nov-21	\$178	
30410-01-S16-SW1	SWMH B3-1	SWMH B3	LOT 8019	COGAR	TERRACE	BERM	150	3.2	uPVC SN16	1.2	447251.51	702521.21	2.1LB	1.8BB	N	Nov-21	\$178	
30410-01-S16-SW1	SWMH B3-1	SWMH B3	LOT 8020	COGAR	TERRACE	BERM	150	2.9	uPVC SN16	1.2	447256.97	702523.53	2.2LB	1.5BB	N	Nov-21	\$215	
30410-01-S16-SW1	SWMH B3-1	SWMH B3	LOT 8021	COGAR	TERRACE	BERM	150	3.4	uPVC SN16	1.2	447263.57	702525.39	2.6RB	2.1BB	N	Nov-21	\$242	
30410-01-S16-SW1	SWMH B3-1	SWMH B3	LOT 8022	COGAR	TERRACE	BERM	150	2.2	uPVC SN16	1.2	447269.90	702529.07	1.1RB	0.9BB	N	Nov-21	\$178	
30410-01-S16-SW1	SWMH B3-1	SWMH B3	LOT 8023	COGAR	TERRACE	BERM	150	2.1	uPVC SN16	1.2	447281.95	702533.06	0.9BB	2.6RB	N	Nov-21	\$178	
30410-01-S16-SW1	SWMH B3-1	SWMH B3	LOT 8024	COGAR	TERRACE	BERM	150	2.7	uPVC SN16	1.2	447283.02	702534.78	0.05RB	1.4BB	N	Nov-21	\$205	
30410-01-S16-SW1	SWMH B3-1	SWMH B3	LOT 8117	COGAR	TERRACE	BERM	150	2.5	uPVC SN16	1.2	447283.03	702534.78	1.6LB	0.2BB	N	Nov-21	\$194	

As Built Datasheet (to accompany As Built Plans) STORMWATER CATCHPITS Waikato Regional ITS Form Version 1 - July 2017

Developer/Contractor: Chedworth Properties Ltd / Online Contractors
Development/Subdivision/Job: Greenhill Park

Stage 16

Date:

Prepared by:

S & L Mar-22

Stage:

Plan ID	Catchpit ID	Property ID (Lot No. or Address)	Street Name	Street Type	Catchpit Type	Grate Level (m)	Easting Coordinate	Northing Coordinate	Service Status	Install Date	Asset Value	Comments
30410-01-S16-SW1	CP A2	8012	MUSSELWHITE	TER	SINGLE SUMP	38.40	447136.17	702611.03	N	Nov-21	\$879.00	
30410-01-S16-SW1	CP A2-1	465	MUSSELWHITE	TER	SINGLE SUMP	42.55	447183.55	702485.98	N	Nov-21	\$879.00	
30410-01-S16-SW1	CP A2-3	471	MUSSELWHITE	TER	SINGLE SUMP	39.54	447147.82	702580.24	N	Nov-21	\$879.00	
30410-01-S16-SW1	CP A2-2A	467	MUSSELWHITE	TER	SINGLE SUMP	41.28	447169.37	702523.16	N	Nov-21	\$879.00	
30410-01-S16-SW1	CP A2-2B	472	WATKINS	ROAD	SINGLE SUMP	41.23	447153.24	702525.42	N	Nov-21	\$879.00	
30410-01-S16-SW1	CP B2	479	MUSSELWHITE	TER	SINGLE SUMP	41.29	447235.23	702481.86	N	Nov-21	\$879.00	
30410-01-S16-SW1	CP B4	460	EARP	CRES	SINGLE SUMP	39.07	447224.47	702550.24	N	Nov-21	\$879.00	
30410-01-S16-SW1	CP B4-1	8017	EARP	CRES	SINGLE SUMP	38.27	447201.81	702610.13	N	Nov-21	\$879.00	
30410-01-S16-SW1	CP D6-3	8073	CHILMAN	TER	SINGLE SUMP	37.96	447253.21	702673.27	N	Nov-21	\$879.00	
30410-01-S16-SW1	CP D6-4-1A	SWALE 1	CHILMAN	TER	SINGLE SUMP	37.55	447220.76	702704.17	N	Nov-21	\$879.00	
30410-01-S16-SW1	CP D6-4-1B	SWALE 1	CHILMAN	TER	SINGLE SUMP	37.62	447231.99	702710.77	N	Nov-21	\$879.00	
30410-01-S16-SW1	CP D6-4A	8073	CHILMAN	TER	SINGLE SUMP	37.93	447246.69	702664.67	N	Nov-21	\$879.00	
30410-01-S16-SW1	CP D6-4B	SWALE 1	CHILMAN	TER	SINGLE SUMP	37.94	447241.08	702661.60	N	Nov-21	\$879.00	
30410-01-S16-SW1	CP D6-5A	8081	CHILMAN	TER	SINGLE SUMP	38.18	447261.56	702633.73	N	Nov-21	\$879.00	
30410-01-S16-SW1	CP D6-5B	8081	CHILMAN	TER	SINGLE SUMP	38.20	447255.75	702631.09	N	Nov-21	\$879.00	
30410-01-S16-SW1	CP D6-5C	457	EARP	CRES	SINGLE SUMP	38.08	447243.13	702634.26	N	Nov-21	\$879.00	
30410-01-S16-SW1	DCP A3	8017	MUSSELWHITE	TER	DOUBLE SUMP	37.99	447173.67	702632.93	N	Nov-21	\$1,107.80	
30410-01-S16-SW1	ROWCP B4-1	8017	ROW	DRIVEWAY	SINGLE SUMP	38.78	447191.41	702601.97	N	Nov-21	\$879.00	

As Built Datasheet (to accompany As Built Plans)

Waikato Regional ITS

Form Version 1 - July 2017

STORMWATER CATCHPIT LEADS

Chedworth Properties Ltd / Online Contractors

Prepared by: S & L

Mar-22

Date:

Development/Subdivision/Job: Stage:

Developer/Contractor:

Greenhill Park
Stage 16

Plan ID	Catchpit ID	Dwnstr MH/ Asset ID	Property ID (Lot No. or Address)	Street Name	Street Type	Physical Location (where necessary)	Catchpit Lead Pipe Diam (mm)	Catchpit Lead Pipe Length (m)	Catchpit Lead Pipe Material	Invert Level at Dwnstrm end	Service Status	Install Date	Asset Value	Comments
30410-01-S16-SW1	CP A2	SWMH A2	454	MUSSELWHITE	TER	BERM	225	9.9	uPVC SN17	37.147	N	Nov-21	\$1,069.20	
30410-01-S16-SW1	CP A2-1	SWMH A2-1	465	MUSSELWHITE	TER	ROADWAY	225	3.9	uPVC SN17	41.265	N	Nov-21	\$421.20	
30410-01-S16-SW1	CP A2-3	SWMH A2-3	8005	MUSSELWHITE	TER	ROADWAY	225	8.3	uPVC SN17	38.058	N	Nov-21	\$896.40	
30410-01-S16-SW1	CP A2-2A	SWMH A2-2	468	MUSSELWHITE	TER	ROADWAY	225	11.7	uPVC SN17	39.972	N	Nov-21	\$1,263.60	
30410-01-S16-SW1	CP A2-2B	SWMH A2-2	472	WATKINS	ROAD	ROADWAY	225	10.9	uPVC SN17	39.660	N	Nov-21	\$1,177.20	
30410-01-S16-SW1	CP B2	SWMH B2	479	MUSSELWHITE	TER	ROADWAY	225	10.3	uPVC SN17	39.981	N	Nov-21	\$1,112.40	
30410-01-S16-SW1	CP B4	SWMH B4	460	EARP	CRES	ROADWAY	225	5.6	uPVC SN17	37.542	N	Nov-21	\$604.80	
30410-01-S16-SW1	CP B4-1	SWMH B4-1	457	EARP	CRES	ROADWAY	225	10.5	uPVC SN17	36.379	N	Nov-21	\$1,134.00	
30410-01-S16-SW1	CP D6-3	SWMH D6-3	8073	CHILMAN	TER	ROADWAY	225	7.1	uPVC SN17	36.968	N	Nov-21	\$766.80	
30410-01-S16-SW1	CP D6-4-1A	SWMH D6-4-1	301	CHILMAN	TER	ROADWAY	225	13	uPVC SN17	36.444	N	Nov-21	\$1,404.00	
30410-01-S16-SW1	CP D6-4-1B	SWMH D6-4-1	300	CHILMAN	TER	ROADWAY	225	15.6	uPVC SN17	36.460	N	Nov-21	\$1,684.80	
30410-01-S16-SW1	CP D6-4A	SWMH D6-4	8073	CHILMAN	TER	ROADWAY	225	2.1	uPVC SN17	36.798	N	Nov-21	\$226.80	
30410-01-S16-SW1	CP D6-4B	SWMH D6-4	301	CHILMAN	TER	ROADWAY	225	5	uPVC SN17	36.818	N	Nov-21	\$540.00	
30410-01-S16-SW1	CP D6-5A	SWMH D6-5	8081	CHILMAN	TER	ROADWAY	225	1.9	uPVC SN17	37.030	N	Nov-21	\$205.20	
30410-01-S16-SW1	CP D6-5B	SWMH D6-5	8081	CHILMAN	TER	ROADWAY	225	4.8	uPVC SN17	37.031	N	Nov-21	\$518.40	
30410-01-S16-SW1	CP D6-5C	SWMH D6-5	8081	CHILMAN	TER	ROADWAY	225	16.5	uPVC SN17	37.046	N	Nov-21	\$1,782.00	
30410-01-S16-SW1	DCP A3	SWMH A3	450	MUSSELWHITE	TER	ROADWAY	300	11.6	uPVC SN17	36.744	N	Nov-21	\$1,252.80	
30410-01-S16-SW1	ROWCP B4-1	SWMH B4-1	8017	ROW		DRIVEWAY	225	10.6	uPVC SN17	37.130	N	Nov-21	\$1,144.80	

As Built Datasheet (to accompany As Built Plans)	Waikato Regional ITS
STORMWATER OUTLETS	Form Version 1 - July 2017

 Developer/Contractor:
 Chedworth Properties Ltd / Online Contractors
 Prepared by:
 S & L

 Development/Subdivision/Job:
 Greenhill Park
 Date:
 Mar-22

Stage: Stage 16

Plan ID	Outlet ID	Upstr MH/ Asset ID	Property ID (Lot No. or Address)	Street Name	Street Type	Structure Type	Structure Material	Discharges To	Easting Coordinate	Northing Coordinate	Service Status	Install Date	Asset Value	Comments
30410-01-S16-SW1	SWOUT A4	SWMH A3	LOT 301	N/A	N/A	WINGWALL	RC	SWALE DRAIN	447233.65	702618.657	N	Jun-21	\$1,140	
30410-01-S16-SW1	SWOUT B6	SWMH B5	N/A	N/A	N/A	WINGWALL	RC	SWALE DRAIN	447237.47	702555.85	N	Jun-21	\$1,140	
30410-01-S16-SW1	SWOUT D8	SWMH D7	N/A	N/A	N/A	WINGWALL	RC	SWALE DRAIN	447261.47	702572.68	N	Jun-21	\$1,440	
30410-01-S16-SW1	SWOUT E2	SWMH E1	LOT 301	N/A	N/A	WINGWALL	RC	SWALE DRAIN	447222.45	702643.94	N	Jun-21	\$1,140	
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													-	
													-	

As Built Datasheet (to accompany As Built Plans)
STORMWATER SUBSOIL DRAIN

Waikato Regional ITS Form Version 1 - July 2017

Developer/Contractor: Chedworth Properties Ltd / Online Contractors

Development/Subdivision/Job: Greenhill Park

Stage 16 Stage:

Prepared by: S & L Date: Mar-22

Plan ID	Dwnstr Asset ID	Street Name	Street Type	Physical Location (where necessary)	Pipe Diameter (mm)	Pipe Length (m)	Pipe Material	Invert Level Upstr (m)	Invert Level Dwnstr (m)	Easting Coordinate Inlet	Northing Coordinate Inlet	Easting Coordinate Outlet	Northing Coordinate Outlet	Service Status	Install Date	Asset Value	Comments
30410-01-S16-SW1	CP A2	MUSSELWHITE	TER	ROADWAY	100	56.2	NOVA	38.78	37.66	447148.15	702580.71	447136.17	702611.03	N	Nov-21		
		MUSSELWHITE	TER	ROADWAY	100	31.5	NOVA	38.78	37.66	447148.15	702580.71	447136.17	702611.03	N	Nov-21		
30410-01-S16-SW1	CP A2-1	MUSSELWHITE	TER	ROADWAY	100	17.1	NOVA	42.40	41.80	447189.89	702470.18	447183.55	702485.98	N	Nov-21		
		MUSSELWHITE	TER	ROADWAY	100	19.9	NOVA	42.51	41.80	447183.92	702469.50	447183.55	702485.98	N	Nov-21		
30410-01-S16-SW1	CP A2-3	MUSSELWHITE	TER	ROADWAY	100	44.7	NOVA	40.49	38.78	447163.93	702538.87	447147.82	702580.24	N	Nov-21		
		MUSSELWHITE	TER	ROADWAY	100	48.4	NOVA	40.63	38.78	447159.71	702533.66	447147.82	702580.24	N	Nov-21		
30410-01-S16-SW1	CP A2-2A	MUSSELWHITE	TER	ROADWAY	100	16.4	NOVA	40.05	40.53	447163.93	702538.87	447169.37	702523.16	N	Nov-21		
		MUSSELWHITE	TER	ROADWAY	100	39.9	NOVA	41.52	40.53	447183.85	702486.13	447169.37	702523.16	N	Nov-21		
		MUSSELWHITE	TER	ROADWAY	100	47.1	NOVA	42.07	40.53	447179.04	702482.54	447169.37	702523.16	N	Nov-21		
30410-01-S16-SW1	CP A2-2B	WATKINS	STREET	ROADWAY	100	42.7	NOVA	40.95	40.48	447115.96	702517.33	447153.24	702525.42	N	Nov-21		
		WATKINS	STREET	ROADWAY	100	36.4	NOVA	40.75	40.48	447119.89	702509.22	447153.24	702525.42	N	Nov-21		
		WATKINS	STREET	ROADWAY	100	17.5	NOVA	40.02	40.48	447164.45	702520.91	447153.24	702525.42	N	Nov-21		
		WATKINS	STREET	ROADWAY	100	6.5	NOVA	40.64	40.48	447156.45	702532.44	447153.24	702525.42	N	Nov-21		
30410-01-S16-SW1	CP B2	COCAR	TER	ROADWAY	100	46.6	NOVA	42.40	40.54	447191.81	702465.05	447235.23	702481.86	N	Nov-21		
		COCAR	TER	ROADWAY	100	51.2	NOVA	42.39	40.54	447189.89	702470.18	447235.23	702481.86	N	Nov-21		
		COCAR	TER	ROADWAY	100	5.2	NOVA	40.60	40.54	447240.33	702483.28	447235.23	702481.86	N	Nov-21		
		COCAR	TER	ROADWAY	100	9.7	NOVA	40.73	40.54	447241.58	702489.74	447235.23	702481.86	N	Nov-21		
30410-01-S16-SW1	CP B4	EARP	CRES	ROADWAY	100	62.7	NOVA	40.55	38.30	447247.06	702491.80	447224.47	702550.24	N	Nov-21		
		EARP	CRES	ROADWAY	100	68.2	NOVA	40.74	38.30	447241.58	702489.74	447224.47	702550.24	N	Nov-21		
30410-01-S16-SW1	CP B4-1	EARP	CRES	ROADWAY	100	7.5	NOVA	37.70	37.52	447199.60	702617.27	447201.81	702610.13	N	Nov-21		
		EARP	CRES	ROADWAY	100	64.0	NOVA	39.30	37.52	447224.91	702550.45	447201.81	702610.13	N	Nov-21		
		EARP	CRES	ROADWAY	100	16.0	NOVA	37.72	37.52	447193.09	702618.01	447201.81	702610.13	N	Nov-21		
		EARP	CRES	ROADWAY	100	64.6	NOVA	38.42	37.52	447219.54	702548.06	447201.81	702610.13	N	Nov-21		
30410-01-S16-SW1	CP D6-3	CHILMAN	TER	ROADWAY	100	0.8	NOVA	37.20	37.21	447254.13	702673.19	447253.21	702673.27	N	Nov-21		
30410-01-S16-SW1	CP D6-4-1A	CHILMAN	TER	ROADWAY	100	49.5	NOVA	37.19	36.80	447240.70	702661.47	447220.76	702704.17	N	Nov-21		
30410-01-S16-SW1	CP D6-4-1B	CHILMAN	TER	ROADWAY	100	47.6	NOVA	37.25	35.87	447251.86	702678.74	447231.99	702710.77	N	Nov-21		
30410-01-S16-SW1	CP D6-4A	CHILMAN	TER	ROADWAY	100	11.9	NOVA	37.21	37.18	447253.41	702672.88	447246.69	702664.67	N	Nov-21		
		CHILMAN	TER	ROADWAY	100	34.1	NOVA	37.40	37.18	447261.91	702634.14	447246.69	702664.67	N	Nov-21		
30410-01-S16-SW1	CP D6-4B	CHILMAN	TER	ROADWAY	100	19.9	NOVA	37.42	37.19	447247.38	702643.29	447241.08	702661.60	N	Nov-21		
30410-01-S16-SW1	CP D6-5A	CHILMAN	TER	ROADWAY	100	24.0	NOVA	37.60	37.42	447272.25	702612.52	447261.56	702633.73	N	Nov-21		
30410-01-S16-SW1	CP D6-5B	CHILMAN	TER	ROADWAY	100	23.5	NOVA	37.61	37.45	447265.81	702609.32	447255.75	702631.09	N	Nov-21		
		CHILMAN	TER	ROADWAY	100	7.2	NOVA	37.49	37.45	447251.26	702635.90	447255.75	702631.09	N	Nov-21		
30410-01-S16-SW1	CP D6-5C	EARP	CRES	ROADWAY	100	8.2	NOVA	37.49	37.33	447251.26	702635.90	447243.13	702634.26	N	Nov-21		
		EARP	CRES	ROADWAY	100	46.8	NOVA	37.67	37.33	447199.60	702617.27	447243.13	702634.26	N	Nov-21		
		EARP	CRES	ROADWAY	100	52.3	NOVA	37.85	37.33	447197.61	702622.73	447243.13	702634.26	N	Nov-21		
		EARP	CRES	ROADWAY	100	7.7	NOVA	37.48	37.33	447247.40	702643.26	447243.13	702634.26	N	Nov-21		
30410-01-S16-SW1	DCP A3	MUSSELWHITE	TER	ROADWAY	100	31.1	NOVA	37.72	37.26	447193.09	702618.01	447173.67	702632.93	N	Nov-21		
		MUSSELWHITE	TER	ROADWAY	100	46.2	NOVA	37.65	37.26	447137.03	702610.13	447173.67	702632.93	N	Nov-21		
		MUSSELWHITE	TER	ROADWAY	100	52.3	NOVA	37.62	37.26	447130.97	702617.51	447173.67	702632.93	N	Nov-21		
		MUSSELWHITE	TER	ROADWAY	100	37.1	NOVA	37.49	37.26	447171.30	702637.94	447173.67	702632.93	N	Nov-21		
30410-01-S16-SW1	ROWCP B4-1	ROW	DRIVE	DRIVEWAY	NA	NA	NA	NA	NA	NA	NA	447191.41	702601.97	N	Nov-21		